A Study on the Causality of the Great Merger Movement in the United States

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* ABSTRACT

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So far there are four principal merger movements in American history. The first merger movement occurred from 1898 to 1902. The second large movements took place in the years 1926 through 1930. The third movement was occurred the decade following World War II. Finally, the fourth movement swept the United States since 1980s.

The first merger movement of four merge movements was the most important of the major merger waves. It transformed many industries into those in which one or a few very large enterprises occupied leading positions. It laid the foundation for the industrial structure that has characterized most of American industry in the twentieth century. In that sense, the first movement is often called the Great Merger Movement.

In the late nineteen century America saw high growth of manufacturing industry, development of cities, sharp expansion of population, and development of technology. At the same time, monopoly became widespread. The public, especially farmers hated monopoly due to the side-effects, and the opposition to trust became larger.

Congress made the Sherman Act in 1890 to prevent trust and the Supreme Court presented its will in Knight, Trans-Missuri, Joint Traffic, and Addyston cases to prohibit monopoly.

However, there are three principal theories on the causality of the Great Merger Movement: Retardation of industrial growth, development of railroad system, and

growth of capital market. These theories is proved not to have firm justification through my research. Rather, the main causality of the Great Merger Movement is proved to be judicial policy carried out preceding four principal cases.

I. Introduction

A. Objectives of Study

The presence is the continuation of the past. Recently American economy is booming, Dow Jones remarked over 10,000 points and unemployment rate is the lowest since World War II. At this point, I cannot raise question what is the potential to incur booming American economy and how American economy have been led.

The booming economy in the United States dates back to the Great Merger Movement since the early twentieth century. There existed four the Great Merger movement in American history.

The first recorded movement occurred as the United States entered the twenties century, its peak years being 1898 through 1902. In many respects it was the most important of the major merger waves. It transformed many industries, formerly characterized by many small and medium sized firms, into those in which one or a few very large enterprises occupied leading positions. It laid the foundation for the industrial structure that has characterized most of American industry in the twentieth century.

The second large movement took place in the years 1926 through 1930. It reflected to some degree the emergence of new leading industries in the years since the first merger wave. It represented attempts to restore the industrial concentration achieved by the first merger wave, a concentration which had become diluted over the years.

The third movement, a product of the decade following World War II, differs from the two earlier merger waves, having a lower peak and a wider spread of the post war

decade. The first years of its highest activity were 1946, 1947, and 1954, 1955, and 1956.[1]

The fourth wave swept the United States since 1980s. The size and intensity of this wave were also unprecedented. It was estimated that $1.2 trillion assets changed hands in the 1980's alone. The Reagan government favored a market for corporate control such that antitrust laws were not enforced or removed. This less restrictive environment might have resulted in more mergers but less diversified mergers.[2]

The reason the first merger movement is called the Great Merger Movement is that its influence was the deepest in respects size and effects to the economy. The twenties enterprises of 100 largest enterprises was founded during the Great Merger Movement age and other eight enterprises was the Court-ordered offspring of Standard Oil Trust which presented hints of "Corporate Revolution".[3]

My aim is to research what is the true causality of the Great Merger Movement, reviewing critically theories on the causality of the Great Merger Movement. To reach the persuasive conclusion, I will look for the background and atmosphere of the late nineteenth century as well as the whole aspect of the Great Merger Movement.

Chapter 1 covers the objectives, scope and methods of study. Chapter 2 examines economic theories, motivation, and effect of the merger. Chapter 3 tries to present the contents and characteristics of American Antitrust laws like the Sherman Act and

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[1] Ralph L. Nelson, *Merger Movements in American Industry 1895-1956* (Princeton: Princeton University Press, 1959), 5.

[2] Robert K. Su & Jong Kim, "Nature and Patterns of the New Merger Wave", *International Accounting Review*, Vol. 1, No. 1 (September, 1996), 79-80 ; on Korean merger activity see Stanley P. Wagner, "Antitrust, the Korean Experience 1981-85," *The Antitrust Bulletin* (Summer 1987), 471-522.

[3] Alfreds Eichner, *The Emergence of Oligopoly* (New York: Greenwood Press, 1978), 15.

Clayton Act, including the function of Department of Justice and Fair Trade Commission. Chapter 4 covers the background, aspect, and characteristics of the Great Merger Movement. Chapter 5 reviews critically theories of causality of the Great Merger Movement and looks into whether judicial policy affected the Great Merger Movement. Chapter 6 as conclusion includes synopsis and limitation of study and suggests implications.

B. Scope and Methodos

This study focuses upon the causality of the Great Merger Movement in the United States. The research includes only the first merger wave of four merger waves occurred in American history. Thus, I do not review merger movements following the first merger movement, let alone excluding contemporary merger movement.[4]

In analyzing the causality of the Great Merger Movement I will make use of theoretical research.

With the view of theoretical research, I shall use literature analysis method which analyses mainly American literature. The methodology is, at first, to present theories on the causality of the Great Merger Movement and measure these theories by statistical data. Then under hypothesis that judicial policy was one of causes of the Great Merger Movement, I will suggest some foundation to prove. When published books and data are too old to get them, I adapt them from second source.

[4] On the merger activity of the early 1990s see Paul A. Pautler & Robert P. O'Quinn, "Recent Empirical

Evidence on Mergers and Acquisition," *Antitrust Bulletin* (Winter 1994), 741-98.

II. General Theory of Merger

A. Motivation of Merger

The motivation of merger is various and different from each merger type. However, the common motivations of diverse merger types are as follows.[5]

1. Efficiencies

Firms may combine their operations through mergers and acquisitions of corporate assets to reduce production costs, improve product quality, or provide entirely new products. Among the potential efficiency benefits from mergers include both operating and managerial efficiencies. Operational efficiencies may arise from economies of scale[6], production economies of scope[7], consumption economies of scope[8], improved resource allocation, improved use o information and expertise and reductions in transportation and transaction costs. It may be that mergers are the quickest or cheapest way to attain these benefits. The gains from mergers, however, are not limited to

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[5] Paul A. Pautler and Robert P. O'Quinn, "Recent Empirical Evidence on Mergers and Acquisition," *Antitrust Bulletin* (Winter 1993), 742-7.

[6] Economies of scale refer to the long-run reduction in the per unit cost of making a product as the volume of production rises, allowing all inputs to be varied optimally.

[7] Production economies of scope refer to the reduction in overall costs from the joint production of complementary products.

[8] Consumption economies of scope refer to the increased consumer welfare from the joint consumption of complementary products.

operating efficiencies. The ability of one firm to merger with another firm or acquire its assets also creates a market for corporate control. Many economists consider an active market for corporate control an important safeguard against inefficient management.

2. Financial and Tax Benefits

Merger may lead to financial efficiencies. For example, firms may diversify their earnings by acquiring other firms or their assets with dissimilar earnings streams. Earnings diversification within firms may lessen the variance in their profitability, reducing the risk of bankruptcy and its attendant costs.

Mergers may also have certain tax benefits. First, a merging (“surviving”) firm may be able to carry over net operation losses and unused tax credits from the merged (“target”) firm. Second, the surviving firm may increase its depreciation allowances by revaluing the assets of the target firm.

3. Market Power Effects

Some mergers may result in market power that redounds to the benefit of the merging firms. Especially, horizontal merger cannot help causing market power to somewhat degree according to definition of horizontal merger. The effect rests on market shares and market environment.

Stigler argued that market power might have been a primary motivation for many of the mergers during the last quarter of the nineteenth century and the first half of this century. He called the 1887-1904 merger wave “mergers to monopoly” and the 1916-1929 wave

"mergers to oligopoly."[9]

4. Management Self-Aggrandizement

The notion that managerial incentives may drive some mergers that ultimately reduce the long-run value of the firm. The managers may overdiversify, overemphasize growth, or simply make bad merger decisions. Managers who make poor merger increase the likelihood that they will become merger targets themselves. If so, the market for corporate control will tend to reduce the scope of self-aggrandizing behavior.

B. Theoretical Background of Merger

Merger is that more than two enterprises convert into one-regulated enterprise through human and capital merger. Merger in general is classified by type of form, which includes horizontal merger, vertical merger, and conglomerate merger. Horizontal merger is defined as the integration of more than two competitive enterprises in the same market. Vertical merger is the integration of enterprises which exist in different level of production. In case an enterprise exists in the upstream industry, it is forward integration. On the contrary, suppose it exists in downstream industry it is backward industry. Conglomerate merger is merger among enterprises which have no transaction relationship or competitive one each other. Conglomerate merger covers product extension, market extension, and pure conglomerate.

[9] G. Stigler, *The Organization of Industry* (Chicago and London: The University of Chicago Press, 1968),

1. Horizontal Merger

a) Theoretical Background

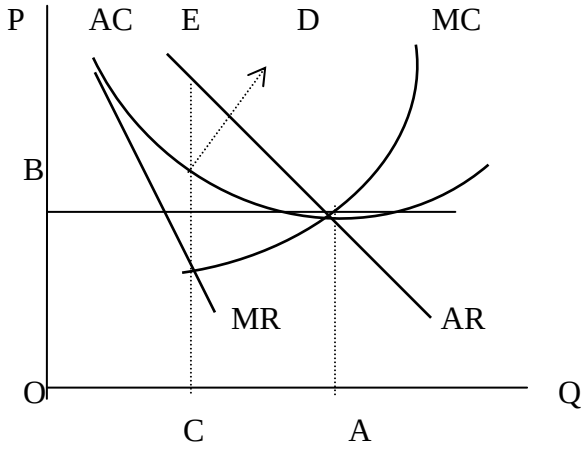
As horizontal merger leads directly to reduce the numbers of competitive enterprises, It causes in competitive-limit effect. Therefore, horizontal merger became main target of regulation policy. Horizontal merger, however, may lead cost-saving effect. For example, it can receive interest of scale in production, sale, human investment and R&D etc. following merger. The economic effect of horizontal merger rests on relative size of market power-enhancing effects and efficiency-enhancing effects.[10]

There are three main theories presented by Stigler, Williamson, and Farrell & Shapiro. Stigler insisted that horizontal merger cause economic loss through monopolization. He said that the result of horizontal merger was monopolization due to extending market power under competition. For the purpose of this analysis, he suggested four unpromising assumptions: (1) long-run average and marginal cost of production are equal for firms of all relevant sizes; (2) entry of new firms is free, although not necessarily inexpensive; (3) the demand for the output of the industry is stable; (4) the specialized resources ("fixed factors") employed in the industry are indestructible. He thought that the possibility of monopolization in horizontal merger, in reality, was high if assumptions were relaxed.

100-7.

[10] Se-il Park, *Law and Economics* (Seoul: Bakyoungsa Press, 1995), 59.

Figure 1. Explanation of Horizontal Merger by Stigler



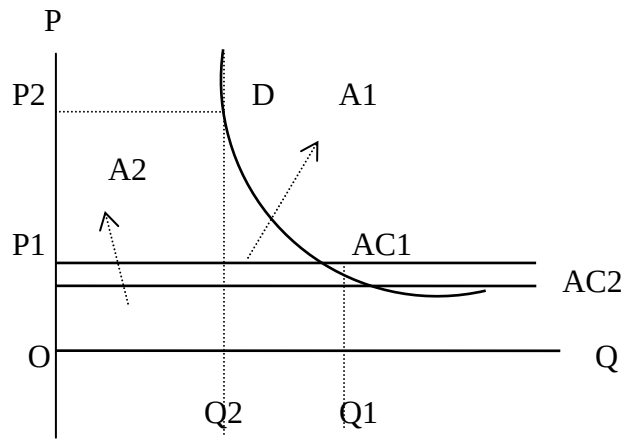
Suppose each firm will have the short-run cost curves displayed in Figure 2-1 and it will be operating at output OA, price OB, and making no profits. If all the firms are merged into monopoly and former fir now has a pro rata share of aggregate demand, AR, with corresponding marginal revenue, MR. Accordingly it operates at output OC and makes profits of OC times DE. Entry of new firms therefore takes place, and the pro rata demand curve of each plant in the merger now shifts to the left, price falls and profits diminish. Eventually the number of rivals will grow until the merger is reduced to the long-run equilibrium level of permanent loss, since the merger nor the new rivals can withdraw from the industry. However, as long as the new rivals cannot enter fast and can get excess profits for long time, there exists the possibility that merger will happen.

In case entry barriers are heightened or the demand is increased by changing assumptions (1) and (2), the company may get excess profits. If in assumption (4) fixed factors subtract, the company will have monopoly profit continuously by means of its continuous investment. Assumption (1) means that it reaches economy of scale and

companies prefer merger to internal expansion. In other words, if the scale of economy is small, the advantage of merger reduces. On the contrary, if economy of scale is large, monopolization is increased. Accordingly, there may be no company for merger.[11]

On the contrary, Williamson maintains that economy of scales could be carried out , although horizontal merger causes monopoly.[12]

Figure 2. Explanation of Horizontal Merger by Williamson



AC1 is average cost prior to merger and AC2 is average cost following merger. P1 is the price prior to merger and P2 is the price following merger. He supposed that P2 is higher than P1, since the merger causes market power. The A1 and A2 represent the effect of merger. A1 is distributing loss which happens, since the price is increased from P1 to P2. The loss by increasing price is offset by cost-saving effect. In other words, Williamson thought that the price following merger is determined in the level of far beyond least average cost because the new firms may enter market. However, He did

[11] Stigler, 95-100. ; Kyu-Hun Lee " A Study of the Industry Policy and the Combination Regulations of Korea," Master Thesis of Department of Economics, DanKook University, 1991.

[12] O. E. Williamson "Economics as an Antitrust Defense: The Welfare Trade-Offs," *American Economic Review* (March 1968), 18-26.

not consider X-inefficiency stemmed from expansion of firm size.

Anyhow, these contentions shows that it is difficult to say in one word on the effect of horizontal merger and it needs flexible thought on regulation. In the process of ruling illegal merger case, the judges or rulers need strong theoretical foundations in the market delineation and entry analysis. I will discuss these two issues in the following paragraph.

b) Market Delineation

The first step to determine market power-enhancing effects is to delineate market. Yet, there have been many contentions on the market delineation, since there has been no unmatched theory so far and therefore it has much room to delineate the market voluntarily. The firm expected having market power intends to lower market share, trying to delineate the market as wide as possible, whereas the competitors having less market power insist on existing of market power, trying to delineate the market narrowly.

There exist some theories on the defining the market. One theory is on cross-elasticity of demand. According to this theory, market is defined as the binding of products with high elasticity of demand or market with high elasticity of demand. When the price of a product is increased, quantity of another product also is increased sharply, which means there exists high substitution between these two products. This therefore can be delineated as one market. The weakness of this theory, however, is not easy to measure

cross-elasticity of demand in real world.[13]

c) Entry Analysis

There have been many theories on the entry analysis. Bain said that entry barrier was defined as the predominance of existing producer to potential entrant, which means that existing producer can set up higher price continuously than competitive price. Entry barrier covers exogenous sources like economy of scale and production differentiation. If this kind of entry barrier exists, antitrust policies focus upon preventing market structure from changing into increasing price by existing firms.

Chicago schools challenged this entry barrier theory for the first time.[14] They differentiated "efficiency exclusion" and "improper exclusion". Most of entry barriers conceived by limit-entry barrier theory are actually not entry barrier, since these are efficiency exclusion. At the same time, The actual entry barrier is diverse barriers by government intervention.

According to contestability theory, entry can lead the competitive achievement if there is no sunk cost. In other words, if sunk cost is so little and entry is free, even monopoly cannot excess profits. This theory implies that regulation in contestable market is

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[13] Chun-Ku Lee, *Micro Economics* (Seoul: Pubmunsa Press, 1995), 457-8.

[14] Chicago schools in antitrust policy is defined as a group of economists who believe reasonable distribution of resources and efficiency is attained through market and government should not intervene market. Their viewpoints are that dynamic competition is important and the relationship of "structure-conduct-performance" in industrial organization by Harvard schools is unacceptable for Chicago schools. Rather, under the logic of Chicago schools it is more important to increase efficiency and consumer welfare based upon inference from each case.

unnecessary.[15]

d) Analysis framework[16]

The antitrust enforcement agency in the United States is Department of Justice (DOJ) and Fair Trade Commission (FTC). If antitrust enforcement agency announces the clear standard of ruling on the merger and corporate understand this standard clearly, the enforcement is more efficient. In these contexts, DOJ have announced its merger guideline since 1968. The first revision was in 1982 and another was in 1984. FTC also announced its regulation standard in cement, dairy and food distribution industry in 1982. However, DOJ and FTC announced "Horizontal Merger Guidelines" in April 1992. These guidelines included the development of legal and economic theories and tried to apply these developments into ruling in real cases.

These guidelines present five analysis steps for ruling merger: 1) market definition, measure & concentration, 2) the potential adverse competition effects, 3) entry analysis, 4) efficiencies, 5) failure and exiting assets.

I try to examine "Horizontal Merger Guidelines" in the following section.

(1) Market Definition, Measurement and Concentration[17]

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[15] Suk-Min Kwon, "A Case Study on the Regulation of Business Integration," Master thesis of Graduate School of Public Administration, Seoul National University, 16-8.

[16] DOJ & FTC, *"The 1992 Merger Guidelines"*, 1992.

[17] Suk-Min Kwon, 18-33.

The Agency uses successive iterations of the price increase test to define market. In performing successive iterations of the price increase test, the hypothetical monopolist is assumed to pursue maximum profits in deciding whether to raise the prices of any or all of the additional products under its control. This process will continue until a group of products would profitably impose at least a “small but significant and nontransitory increase in price”, including the price of a product of one of the merging firms. The Agency generally considers the relevant product market to be the smallest group of products that satisfies this test.

In the above analysis, the Agency uses prevailing prices of the products of the merging firms and possible substitutes for such products, unless premerger circumstances are strongly suggestive of coordinated interaction, in which case the Agency uses a more reflective price than competitive price. However, the Agency may use likely future prices, absent the merger when changes in the prevailing prices can be predicted with reasonable reliability.

In attempting to determine objectively the effect of a “small but significant and nontransitory” increase in price, the Agency, in most contexts, uses a price increase of five percent lasting for the foreseeable future. However, what constitutes a “small but significant and nontransitory” increase in price depends on the nature of the industry, and the Agency at times may use a price increase that is larger or smaller than five percent.

So does the Agency in determining geographical market.

Related to participants, participants include firms currently producing or selling the market’s products in the market’s geographic area. In addition, participants may include other firms depending on their likely supply responses to a “small but significant and

nontransitory" price increase. This includes vertically integrated firms to the extent that such inclusion accurately reflects their competitive significance in the relevant market prior to the merger. A firm is also viewed as a participant if, in response to a "small but significant and nontransitory" price increase, it likely would enter rapidly into production or sale of a market product in the market's area without incurring significant sunk costs of entry and exit. Sunk costs are the acquisition costs of tangible and intangible assets that cannot be recovered through the redeployment of these assets outside the relevant market, i.e., costs uniquely incurred to supply the relevant product and geographic market.

After identifying of firms that participate in the relevant market, the Agency normally calculates market shares for all firms as market participants based on the total sales or capacity currently devoted to the relevant market together with that which likely would be devoted to the relevant market in response to "small but significant and nontransitory" price increase.

Market shares are calculated using the best indicator of firms' future competitive significance. Dollar sales or shipments are generally used if firms are distinguished primarily by differentiation of their products. Unit sales are used if firms are distinguished primarily on the basis of their relative advantages in serving different buyers or groups of buyers. Physical capacity or reserves are used if it is these measures that most effectively distinguish firms. Typically, annual data are used, but where individual sales are large and infrequent so that annual data may be unrepresentative, the Agency may measure market shares over a longer period of time. The Agency does not include its sales or capacity to the extent that the firm's capacity is committed or so profitably employed outside the relevant market that it would not be available to

respond to an increase in price in the market.

Market concentration is a function of the number of firms in a market and their respective market shares. As an aid to the interpretation of market data, the Agency uses the Herfindahl Hershman Index (HHI) of market concentration.[18] The agency considers both the post-merger market concentration and the increase in concentration resulting from the merger.

The agency divides the spectrum if market concentration as measured by HHI into three regions that can be broadly characterized as unconcentrated (HHI below 1000), moderately concentrated (HHI between 1000 and 1800), and highly concentrated (HHI above 1800).

In the unconcentrated market, mergers are unlikely to have adverse competitive effects and ordinarily require no further analysis. In the moderately concentrated market, mergers producing an increase in the HHI of less than 100 points are unlikely to have adverse competitive consequences and ordinarily require no further analysis. However, if the increase rate in the HHI is more than 100 points, it is considered to raise significant competitive concerns. In the highly concentrated market, mergers producing an increase in the HHI of less than 50 points, even in highly concentrated market, are considered unlikely to have adverse competitive consequences. If increasing rate in the

[18] The HHI is calculated by summing the squares of the individual market shares of all the participants. It reflects both the distribution of the market shares of the top four firms and the composition of the market outside the top four firms. It also gives proportionately greater weight to the market shares of the larger firms in accord with their relative importance in competitive interactions. Although it is desirable to include all firms in the calculation, lack of information about small firms is not critical because such firms do not affect the HHI significantly. The HHI ranges from 10,000 (in the case of pure monopoly) to a number approaching zero (in the case of an atomistic market).

HHI is more than 50 points, it is considered to raise potentially significant competitive concerns. Also, it is presumed that mergers producing an increase in the HHI of more than 100 points are considered likely to create or enhance market power or facilitate its exercise.

However, in some situations like change of technology, market share and market concentration data may either understate or overstate the likely future competitive significance of a firm or firms in the market or the impact of a merger.

(2) The Potential Adverse Competitive Effects of Merger

Market share and concentration data provide only the starting point for analyzing the competitive effects, as well as entry, efficiencies and failure. Thus, it is necessary to analyze whether merger produces adverse competitive effect. The analysis of adverse competitive effect is divided into two cases, one is the case of lessening of competition through coordinated interaction and another is through unilateral effects.

Coordinated interaction is comprised of actions by a group of firms that are profitable for each of them only as a result of the accommodating reactions of the others. Coordinated interaction needs three conditions: first, reaching terms of coordination, second, detecting deviation from those terms, and third, punishing deviation from those terms. Depending upon the circumstances, the following market factors may be relevant: the availability of key information concerning market condition, transactions

and individual competitors; the extent of firm and product heterogeneity; pricing or marketing practices typically employed by firms in the market; the characteristics of buyers and sellers; and the characteristics of typical transactions.

Certain market conditions that are conductive to reaching terms of coordination also may be conductive to detecting or punishing deviations from those terms. The extent to which any specific market conditions necessary to coordinated interaction depends upon on the circumstances of the particular case.

In determining reaching terms of coordination, the Agency considers product or firm homogeneity, existing practices among firms, practices not necessarily themselves such as standardization of pricing or product variables, and procuring key information. In order to determine detecting and punishing deviations, the Agency considers existing practices among firms, keeping secretly key information about specific transactions or individual price or output levels, and demand and cost fluctuations etc.

A merger may diminish competition even if it does not lead to increased likelihood of successful coordinated interaction in case adverse competitive effect exists and market share is more than 35 percent. In the differentiated products market, a merger between firms in a market for differentiated products may diminish competition by enabling the merged firm to profit by unilaterally raising the price of one or both products above the premerger level. Some of the sales loss due to the price rise merely are diverted to the product of the merger partner and depending on relative margins, capturing such sales loss through merge may make the price increase profitable even though it would not have been profitable premerger. In the homogeneous product market, a merger may increase profit by constraining output and enhancing price in case firms are differentiated due to the difference of production ability.

(3) Entry Analysis

The Agency examines the timeliness, likelihood, and sufficiency. In other words, the Agency employs a three step methodology to assess whether committed entry would deter or counteract a competitive effect of concern.

The first step assesses whether entry can achieve significant market impact within a timely period. In order to deter or counteract the competitive effects of concern, entrants quickly must achieve a significant impact on price in the relevant market. The Agency considers timely only those committed entry alternatives that can be achieved within two years from initial planning to significant market impact. An entry alternative is defined by the actions the firm must take in order to produce and sell in the market.

An entry alternative is likely if it would be profitable at premerger prices and if such prices could be secured by the entrant. The committed entrant will be unable to secure prices at premerger levels if its output is too large for the market to absorb without depressing prices further. Thus, entry is unlikely if the minimum viable scale is larger than the likely sales opportunity available to entrants.

Third step assesses whether timely and likely entry would be sufficient to return market prices to their premerger levels. This end may be accomplished either through multiple entry or individual entry at a sufficient scale. Entry may not be sufficient, even though timely and likely, there are the constraints on availability of essential assets, due to incumbent control, make it impossible for entry profitably to achieve the necessary level of sales.

In assessing whether entry will be timely, likely, and sufficient, the Agency recognizes

that precise and detailed information may be difficult or impossible to obtain. In such instances, the Agency will rely on all available evidence bearing on whether entry will satisfy the conditions of timeliness, likelihood, and sufficiency.

(4) Efficiencies

The Agency examines some mergers may be reasonably necessary to achieve significant net efficiencies. Cognizable efficiencies include, but are not limited to, achieving economies of scale, better integration of production facilities, plant specialization, and distribution operations of the merging firms. The Agency may also consider claimed efficiencies resulting from reductions in general selling, administrative and overhead expenses, and distribution of the merging firms etc. However, the Agency rejects claims of efficiencies if equivalent or comparable savings can reasonably be achieved by the parties through other means.

(5) Failure and Exiting Assets

The Agency considers that a merger is not likely to create or enhance market power or facilitate its exercise if the following circumstances are met: 1) the allegedly failing firm would be unable to meet its financial obligations in the near future; 2) it would not be able to reorganize successfully under bankruptcy; 3) it has made unsuccessful good-faith efforts to elicit reasonable alternative offers of acquisition of the assets of the failing firm that would keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed merger; and 4) absent

the acquisition, the assets of the failing firm would exit the relevant market. In the failing division, upon applying appropriate cost allocation rules, the division must have a negative cash flow on an operating basis. Also absent the acquisition, it must be that the assets of the division would exit the relevant market in the near future if not sold. The owner of the failing division also must have complied with the competitively preferable purchaser requirement of failing firm.

2. Vertical Integration

a) Theoretical Background

We shall say that a firm is vertically integrated if that firm transfers internally form one to another a commodity that could be sold in the market without major adaptation.[19] Even if there are many opinions on vertical integration, there has been no discernible convergence of opinion regarding the dominant incentives for and effects of vertical integration.

One of these theories is that the existence of transactions costs might provide an incentive for vertical integration explored by Coase.[20]

In essence, Coase views the production process as a chain of more or less discrete stages at which various inputs are combined to produce intermediate products that are employed in following stages until the final link is reached and the consumer good

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[19] David L. Kaserman & John W. Mayo, *Government and Business: The Economics of Antitrust and Regulation* (Orlando: the Dryden Press, 1995), 297.

emerges. Each link of this chain may be connected either by an intermediate product market that functions through the price mechanism or by entrepreneurial coordination if successive stages are embodied within the same firm. Then, since each of these alternative coordinating mechanisms gives rise to particular kinds of costs, the firm will base its decision of whether to incorporate preceding and succeeding stages of production within the purview of the entrepreneur on a comparison of the relative costs of each. Thus, the make-or-buy/use-or-sell decision turns on the comparative costs of coordinating productive activities within the firm or through the price system, and its outcome at the various stages determines the size of the firm in relation to the production chain.

Coase elaborates the costs associated with use of the price system. These include: 1) search costs to discover what the relevant prices are; 2) negotiation costs involved in the contracting process; 3) costs of reduced flexibility associated with long-term contracts; and 4) costs imposed on market transactions by governmental or regulatory bodies. Also, the costs associated with internal entrepreneurial coordination are discussed. He argues that in terms of the number of production stages that are internalized, firm size is determined by equating these two kinds of costs at the margin. In other words, the firm will expand until the cost of coordinating the next stage internally is equal to or greater than the cost of coordinating these stages through the price system.

However, Williamson has provided the most detailed analysis of transactions costs and their role in influencing the integration of firms.[21] He explained in detail the myriad

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[20] R. H. Coase, "The Nature of the Firm," *Economica*, vol. 4 (November 1937), 386-405.

[21] O. E. Williamson, "The Vertical Integration of Production: Market Failure Considerations," *American*

factors that determine the organizational costs of markets and firms and argues that "transactional failures" account for much of the "internalization" if coordination activities. Three basic properties of the firm are seen as encouraging internal organization as a substitute for the market mechanism.

First, internalization of the transfer of an intermediate product form one stage of production to the next harmonizes the opposing interests of the parties to the transaction. This cojoining of previously antagonistic objectives may be expected to be particularly attractive in situations in which small-numbers bargaining obtains or uncertainly exists regarding the final outcome of the actual transaction.

Second, entrepreneurial control expands the range and sensitivity of the instruments available for coordinating and enforcing input decisions. The reward and penalty mechanisms available within the firm may provide a relatively efficient mechanism for the resolution of transactional conflicts. Such conflicts are more likely to arise in instance where contractual completeness cannot be attained and where the need for sequential adaptive decision-making is dominant.

Third, economies of information exchange may be achieved by combining successive stages of production under common control. Such economies are likely to exist in situations involving informational asymmetry between the parties to the exchange, the presence of a moral hazard, or, in general, any time that uncertainty is intertwined with opposing interests. Other potential incentives for vertical integration are recognized by Williamson, by the primary focus is on the minimization of organizational or transactions costs as the principal motive for linking production stages by internal

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Economic Review, vol. 61 (May 1971), 112-23; and O. E. Williamson, *Antitrust Economics: Merger*,

control.

In addition to the effects of risk on transactions costs, Arrow dealt with vertical integration as a response to the stochastic elements confronting the firm.[22] Arrow has examined the influence on the firm's organizational choice of stochastic input supply price with asymmetric information between participants at the upstream and downstream stages. Production of the final product is assumed to occur under constant cost conditions with two inputs – capital and raw materials. Then assuming that downstream of production and that upstream firms have information on the supply price of the raw material one period in advance, acquisition of raw materials producers by final product firm reduces costs by allowing inputs to be combined in efficient proportions. Essentially, vertical integration is seen as a means of acquiring predictive information on the relative prices o inputs at the relevant point in time.

Arrow points out that the need to integrate to acquire this information must ultimately rest on the assumption that a market exists for upstream firms but that a market for the information itself does not exist. Also, it must be assumed that a futures market or a market for contingent claims on the raw material does not exist.

While many theories centers that vertical integration enhances internal efficiency of firms, they do not consider that vertical integration may enhance adverse competitive effects. Recent trends of theories on the adverse competitive effects of vertical integration are that the adverse competitive effects happen in exceptional case.

Contraction and Strategic Behavior (New York: Blackwell, 1987), 24-38.

[22] See K. J. Arrow, "Vertical Integration and Communication," *Bell Journal of Economics*, vol. 6 (Autumn 1975), 173-83; and David L. Kaserman, "Theories of Vertical Integration: Implications for Antitrust Policy," *Antitrust Bulletin*, vol. 23 (Fall 1978), 492-93.

Related to the adverse competitive effects of vertical integration, there exists some theories: market foreclosure, raising barriers to entry, and price squeeze & supply squeeze.

The basic idea behind the foreclosure theory is that an input supplier, by merging with one of its customer firms (or an input customer, by merging with one of its suppliers), effectively removes that firm's purchases (or sales) from the open market. By so doing, vertical integration reduces the size of the market that is left available to other nonintegrated firms in the industry. This reduction in the size of the "open" market is alleged to have anticompetitive consequences.[23] However, the foreclosure doctrine has not been generally well received by economists. This cool reception is due to that the fundamental presumption underlying this doctrine – that vertical integration entirely removes a given set of transactions from the pressure of market force – does not make economic sense.

Whether and to what extent vertical integration increases barriers to entry into a given industry has been debated for some time. Anyhow, when the market share of merging firm in the product-selling market is high, firms which consider entering producing market may expect extremely high competition in the lessened product-selling market in order to succeed in entering, which prevents firms from entering producing market. In addition, in case the market share of merging firm is high in the raw material market, firms which considers entering product market must try to enter both product and raw material market at the same time. This is much burden for incoming firms, since it needs high technology and lots of fund. This means barriers to entry are raised, since a

[23] Kaserman & Mayo, 312-13.

firm must enter another market so as to enter one market.

If non-merging firms are supplied by merging firm which occupies high market share, merging firm may squeeze and set higher price through price discrimination, which results in adverse competitive effect. Also, merging firm may prevent non-merging firm through denying enough supply, i.e. supply squeeze.

b) The 1984 Merger Guidelines of DOJ

These guidelines were issued in 1984 and identify three principal avenues through which a vertical merger could have anticompetitive consequences. First, relying upon the theory of potential competition, the department states that “in some circumstances, the non-horizontal merger of a firm already in a market with a potential entrant to that market may adversely affect competition in the market. Second, “in certain circumstances, the vertical integration resulting from vertical mergers could create competitively objectionable barriers to entry.” Third, “ a high level of vertical integration by upstream firms into the associated retail market may facilitate collusion in the upstream market by making it easier to monitor price.”

Related to first issue, in describing the circumstances under which the department is likely to challenge a vertical merger on grounds of a lessening of potential competition, explicit recognition is given to the conditions that must exist for such a merger to have anticompetitive consequences under that theory. Specifically, the Agency describes four considerations.

- First, barriers to entry are unlikely to affect market performance if the structure of the market is otherwise not conductive to monopolization or collusion. Adverse

competitive effects are likely only if overall consideration, or the largest firm's market share, is high. The Agency is unlikely to challenge a potential competition merger unless overall concentration of the acquired firm's market is above 1,800 HHI.

- Second, if the entry to the market is generally easy, the fact that entry is marginally easier for one or more firms is unlikely to affect the behavior of the firms in the market. The Agency is unlikely to challenge a potential competition merger when new entry into the acquired firm's market can be accomplished by firms without any specific entry advantages.
- Third, if more a few firms have the same or comparable advantage in entering the acquired firm's market, the elimination of one firm is unlikely to have any adverse competitive effect. The Agency is unlikely to challenge a potential competition merger if the entry advantage ascribed to the acquiring firm (or another advantage of comparable importance) is also possessed by three or more other firms.
- Fourth, the Agency considers expected efficiencies in determining whether to challenge a potential competition merger.

Thus, in this area the guidelines more accurately reflect the economic implications of the theory of potential competition. To the extent actual enforcement decisions follow those guidelines, socially beneficial should emerge. However, there are some critical literature on this issue.[24]

Second, the guidelines recognize that three conditions are necessary for a vertical

[24] See Thomas G. Krattenmaker & Robert Pitofsky, "Antitrust Merger Policy and the Reagan Administration," *Antitrust Bulletin* (Summer 1988), 211-32; and Malcom B. Coate & Fred S. McChensney, "Empirical Evidence on FTC Enforcement of the Merger Guidelines," *Economic Inquiry* 30 (April 1992), 277-93.

merger to increase entry barrier to an objectionable level.

- First, the degree of vertical integration between the two markets must be so extensive that entrants to one market ... also would have to enter the other market ... simultaneously.
- Second, the requirement of entry at the secondary level must make entry at the primary level significantly more difficult and less likely to occur.
- Finally, the structure and other characteristics of the primary market must be otherwise so conductive performance that the increased difficulty of entry is likely to affect its performance.

The guidelines go on to explain how market structure will influence enforcement actions. That is, the Agency is unlikely to challenge a merger unless overall concentration of the primary market is above 1800 HHI.

Finally, the guidelines indicate that vertical mergers are most likely to facilitate collusion when a producer vertically integrates into retail distribution.

It is noticeable that guidelines focus on the structure of the acquired firm's industry. It is only when that market is concentrated (that is, when the HHI exceeds 1800) that a vertical merger is subject to challenge.[25]

[25] Kaserman & Mayo, 326-27.

III. American Antitrust Laws and Enforcement Agency

A. American Antirust Laws

The merger in the Unite State is regulated and administrated by DOJ and FTC. There are three major federal antitrust laws referred by DOJ and FTC: the Sherman Act, the Clayton Act, and the Federal Trade Commission Act.

1. The Sherman Act[26]

The Sherman Act has stood since 1890 as the principal law expressing American commitment to a free market economy. The Sherman Act outlaws all contracts, combinations, and conspiracies that unreasonably restrain interstate trade. This includes agreements among competitors to fix prices, rig bids and allocated customers. The Sherman Act also makes it a crime to monopolize any part of interstate commerce.

A lawful monopoly exists when only one firm provides products or service, and it has become the only supplier not because its product or service is superior to others, but by suppressing competition with anticompetitive conduct. The Act is not violated simply when one firm's vigorous competition and lower prices take sales from its less efficient competitors. Rather, that is competition working properly.

The Sherman Act violations are punished as criminal felonies. DOJ alone is empowered

[26] See the web site of DOJ; and Man-Ok Cho, "Theory and Practice of American Antitrust Policy,"

to bring criminal prosecutions under the Sherman Act. Individual violators can be fined up to $35,000 and sentenced to up to 3 years in federal prison for each offense; corporations can be fined up to $10million for each offense. Under some circumstances, the fines can go even higher.

2. The Clayton Act

The Clayton Act is a civil statute (it carries no criminal penalties) that was passed in 1914 and significantly amended in 1950. The Clayton Act prohibits mergers that are likely to lessen competition. Under the Act, the government challenges those mergers that a careful economic analysis shows are likely to increase prices to consumers. All persons merger above certain size must notify both the Antitrust Division and the FTC. The Act also prohibits certain other business practices that under certain circumstances may harm competition.

3. The Federal Trade Commission Act[27]

The Federal Trade Commission Act prohibits unfair methods of competition in inerstate commerce, but carries no criminal penalties. It also created the Federal Trade Commission to police violations of Act.

Master thesis of Chunnam National University, 4-6.

[27] See the web site of the DOJ; and Marshall C. Howard, *Antitrust and Trade Regulation* (Engelwood

4. The Relationship of Antitrust Laws

The main act related to merger is section 7 of Clayton Act even if it is applied by section 1 of Sherman Act, the prevention of trade restraint and section 5 of Federal Trade Commission Act, the prevention of unfair trade.[28] The Clayton Act was made in 1914 in order to prevent specific behavior in its incipiency which may tend to create monopolization.

B. Enforcement Agency[29]

1. DOJ

a) Structure[30]

The president of the Antitrust Division is an Assistant Attorney General whom the President nominates and Congress ratifies. The Antitrust Division has eleven sections – eight law sections, two economy sections, and one administration section – and seven

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Cliffs: Prentice Hall Inc., 1983), 25-7.

[28] The section 7 of Clayton act reads that no corporate shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no corporation subject to the jurisdiction of the Federal Trade Commission shall acquire the whole or any part of the assets of one or more corporations engaged in commerce, where in any line of commerce in any section the country, the effect of such acquisition, of such stocks or assets, or of the use of such stock by the voting or granting of proxies or otherwise, may be substantially to lessen competition, or to tend to create a monopoly.

[29] A. D. Neale, *The Antitrust Laws of the United States of America* (Cambridge: The University Press, 1970), 373-400.

[30] Kwang-Shik Shin, *The International Comparison of Competition Policy: the United States, Japan,*

local offices.

The job of five sections of eight law sections is related to legal procedure: Litigation I Section and Litigation II Section work for non-regulation industries and Communications & Finance Section, Transportation, Energy & Agricultural Section, Professions & Intellectual Property Section work for regulatory industries. The operation of Foreign Commerce Section is things related to activities of international organizations such as OECD and UNCTAD. In addition, this Section covers the activity of Trade Policy Review Group and trade policies. Legal Policy Section covers the evaluation of legal policy and making laws. Appellate Section works in the area of appellate procedure.

Since 1985 the activity of economists in the Antitrust Division was increased and two economic sections, Economic Litigation Section and Economic Regulatory Section, cover making policy and enforcement of antitrust.

b) Procedures

The Antitrust Division must first detect crime before it can prosecute it. This is one of the most important of the difficulties of antitrust enforcement. Detection in fact relies on complaints which come from the public at large or, more often, from businessmen who are injured or threatened by restraint of trade or monopoly.

As well as detection, there must be selection, since a vast field of business activity has to be covered with limited resources. This selection is determined by the subject of

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and Germany (Seoul: KDI, 1995), 48-9.

antitrust campaign and authenticated complaints.

However, information from complaints of the public or information which the agency acquires is rarely complete or detailed enough for its lawyers to be able to prove a case in the courts. Therefore, there is need for investigation.

Just as most crimes are brought to book by the evidence of witness, antitrust case need evidence. To get evidence of antitrust offenses it is always necessary to search among the industry's own records and correspondence. However, this creates a serious difficulty in getting evidence because a businessman accused of an antitrust offense is not compelled any more than a suspected murderer to provide the evidence to condemn him. In order to solve this problem, the DOJ uses Federal Bureau of Investigation (FBI) or Antitrust Division who can carry out the normal type of police inquiry into a suspected crime. Alternatively, if the violations are of such a nature that criminal remedies seem appropriate, the DOJ seeks an investigation by a Grand Jury.

As to the scope of its inquiry, it may call for any documents and subpoena any witness and is limited only by a duty not to impose an unreasonable and unnecessary burden upon the witness. The Grand Jury inquiry is an *ex parte* proceeding in which the firm under suspicion has no opportunity to advance any form of defense or justification for its act. Yet if it ends in an indictment, this will of itself carry a stigma of criminality, even though there may subsequently be an acquittal.

Once DOJ is in possession of the information needed for making a case, it has to decide whether to proceed by criminal prosecution or by civil action. Most of the biggest cases in antitrust history have been civil proceedings. In general, there are two aspects of the choice between criminal and civil proceedings: The first is the question of what the action is to achieve and the second aspect is simply of doing justice to those who are

subject to antitrust discipline.

It is sometimes suggested that more could be done by DOJ by way of informal procedures for enforcing law. Although this type of informal, administrative adjudication has increased, there are necessity severe limitations to what can be done in this way.

2. FTC

The Fair Trade Commission was established in 1914 to enforce the FTC Act and the Clayton Act. There are five commissioners who are appointed by the President and ratified by congress. The President appoints the Chairman among the Commissioner. Now the Chairman of FTC is Robert Pitofsky.[31]

The organization of FTC include the Commission, Office of Public Affairs, Office of Congressional Relations, Office of the Executive Director, Office of the General Counsel, Office of the Secretary, Administrative Law Judge, Office of Inspector General, Bureau of Consumer Protection, Bureau of Competition, Bureau of Economics, and Regional Offices.

FTC may begin an investigation in different ways, Letters from consumers or businesses, Congressional inquiries, or articles on consume or economic subjects may trigger FTC action. Investigations are either public or non public. Generally, FTC investigations are nonpublic in order to protect both the investigation and the economy.

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[31] See the web site of FTC; and Kenneth M. Parzych, *Public Policy and the Regulatory Environment* (Lanham: University Press of America, Inc., 1993), 102-13.

If FTC believes a violation of the law occurred, it might attempt to obtain voluntary compliance by entering into a consent order with the company. A company that signs a consent order need not admit that it violated the law, but it must agree to stop the disputed practices outlined in an accompanying complaint.

If a consent agreement cannot be reached, FTC may issue an administrative complaint. If an administrative complaint is issued, a formal proceeding that is much like a court trial begins before an administrative law judge: evidence is submitted, testimony is heard, and witnesses are examined and cross-examined. If a law violation is found, a cease and desist order or other appropriate relief may be issued. Initial decisions by administrative law judges may be appealed to the full Commission.

Finial decisions issued by the Commission may be appealed to the U.S. Court of Appeals and, ultimately, to the U.S. Supreme Court. If the Commission's position is upheld, FTC in certain circumstances, may then seek consumer redress in court. If the company ever violates the order, the Commission also may seek civil penalties or an injunction.

In some circumstances, FTC can go directly to court to obtain an injunction, civil penalties, or consumer redress. This usually happens in cases of on going consumer fraud. By going directly to court, FTC can stop the fraud before too many consumers are injured.

The commission can also issue trade regulation rules. If FTC staff finds evidence of unfair or deceptive practices in an entire industry, it can recommend that the Commission begin a rulemaking proceeding. Through rulemaking proceeding, the

public will have opportunities to attend hearings and file written comments. The Commission will consider these comments along with the entire rulemaking record-the hearing testimony, the staff report, and the Presiding Officer's report- before making a final decision on the proposed rule. A FTC rule may be challenged in any of the U.S. Courts of Appeal. When issued, these rules have the force of law.

3. Relationship of the Antitrust Division of DOJ and FTC

As has already noted, these two bodies have concurrent jurisdiction over a considerable part of the field. Broadly speaking DOJ takes to itself the enforcement of the Sherman Act, in particular the prosecution serious and significant infringements of that act as I mentioned it. Also, it plays the major role in the enforcement of section 7 of the Clayton Act. It normally takes action under other sections of the Clayton Act only when charges under that Act are a factor in a broader picture of Sherman Act violation. FTC enforces section 5 of the Federal Trade Commission Act and takes the main brunt of the work under the remaining sections of the Clayton Act.

The Commission has no criminal jurisdiction. The procedures adopted by these two law enforcing agencies differ considerably.

DOJ, alone having criminal jurisdiction, must naturally concern itself largely with flagrant offences against the criminal provisions of the Sherman Act, and it is convenient to begin with this activity. Under section 4 of The Sherman Act DOJ also, however, has the duty of instituting, civil proceedings to prevent and restrain any violation of the Act.

IV. Background and Aspect of the Great Merger Movement

A. Background of the Great Merger Movement

I will review upholding changes background in the late nineteen century. This review, I believe, may increase the outstanding of the Great Merger Movement. It covers economic background, and social background.

1. Economic Background

The rapid transformation from a largely agricultural to an increasingly industrial society in the United States began following the Civil War. The Civil War stimulated further the growth of manufactures and witnessed the beginning of mass production in some industries. Although there were fairly wide fluctuations in the economy between the war and 1890 the period is generally marked by unprecedented industrial expansion.[32]
As Table 1 shows, the rapid growth of manufacturing industry changed the economic structure.

[32] Hans B. Thorelli, *The Federal Antitrust Policy* (Baltimore: The Johns Hopkins Press, 1955), 160.

Table 1. The Increasing Rate of Value Added in Agriculture and Industry

Year	Agriculture (%)	Industry (%)
1839	78	22
1869	57	43
1899	35	65
1929	17	83

Source: Robert E. Gallman and Edward S. Howle, "Trends in the Structure of the American Economy since 1840," in Fogel and Engerman, eds., *The Reinterpretation of American Economic History* (New York: Harper and Row, 1971), 26.

According to Table 1 the value added of industrial goods in 1839 was 22 percent, but following 1839 the increasing rates of value added in manufacturing industry by per every thirty years was around 20 percent, which means that the industrialization in the United States was made rapidly.

On the contrary, the increasing rate of value added in agriculture was decreased sharply. The increasing rate of value added in agriculture was 78 percent in 1838, but the decreasing rate of value added in agriculture was nearly 20 percent by per each 30 year. By 1880 the half of the whole workers were hired in agriculture which contributed to absorbing unemployees in non-agricultural industries and broadening the agricultural market for consumer goods. However, the development gap was increasing between agriculture and industry as years went on. As a result, the move of workers toward manufacturing industry was increased. In 1840 more than 60 percent of employees worked in the first industry, only 9 percent and 8 percent of employees worked in manufacturing and the third industry respectively. In 1930 only 24 percent of the whole

workers occupied in the first industry like agriculture.

Table 2. Growth of Manufacturing Industry (%)

	1870	1900	1905
Manufacturing Production Index	25	100	140
Rate of per GNP	35.8	76.4	71.5

Source: U.S. Bureau of Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington D.C.: U.S. Government Printing Office, 1976), 231.

The following table illustrates development during these years.

Table 3. Developments between the Civil War and 1890

Year	No. of Establishments (factories and hand and neighborhood industries)		Average wage		Value of Products	
	Number	Increase (%)	Number	Increase (%)	Dollars	Increase (%)
1869	252,148		2,053,996		3,385,860,354	
1879	253,852	0.7	2,732,595	33.0	5,369,579,191	58.8

1889	355,405	40.0	4,251,535	55.6	9,372,378,843	74.5

Source: Hans B. Thorelli, *The Federal Antitrust Policy* (Baltimore: The Johns Hopkins Press, 1955), 63.

The small increase in number of establishments between 1869 and 1879 is probably indicative of the extraordinary mortality of small businesses in the unstable postwar period. An indication of the increasing degree of mechanization ins the fact that whereas the number of wage earners a little more than doubled between 1869 and 1889, the value of the dollar almost trebled.[33]

During these period the structure of manufacturing industry was rapidly being alerted. Among the outstanding characteristics of the era were the widespread adoption of the corporate form of organization and the appearance of big business as a dominating economic factor. Mass production called for heavy fixed investments, which in turn put a limit on the number of newcomers in many industries and sometimes made competition between existing establishments.

Under such conditions admiration for bigness, a belief that any increase in size meant an increase in efficiency, and the desire to reap promoters' profits became partly one of reasons causing combination.[34] Furthermore, firms unwilling to abandon their independence to join combination were often persuaded or forced to do so by the use of practices and underhanded methods of competition as typified by the activities of such

[33] However, the table does not consider the difference in the value of the dollar at both ends of this period.

[34] Thorelli, 161.

enterprises as the Standard Oil Company.[35]

2. Social Background

In the abreast of the development of economy, there existed rapid change in some part: the expansion of population toward the West, the establishment of railroad from 1850 to 1870s, the development of city and market, and new inventions.[36]

a) The Expansion of population

At that time the United States depended upon immigration policy, not upon natural increase of population. The population of immigration was 3,140 million in 1860 and 4,000 million in 1870. In 1910 the population of immigration became 9,200 million people which was three times as many as that of immigration in 1860. This expansion of population led to expansion of supply and demand in economy, developing markets. The regional change of population is as follows.

Table 4. The Regional Dispersion Ratio of Population (1840-1930) (%)

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[35] The Standard Oil Company was a firm reorganized in 1870 by Rockefeller. The early development of the oil industry was hampered by a lack of refineries and a shortage of cheap transportation facilities. With the knowledge of these two handicaps Rockefeller united four small refineries in 1867. This combination became the Standard Oil Company. Even if the Standard was very successful, it had been criticized, since Standard's victory was due to the unscrupulous and often extra-legal methods to which Rockefeller resorted .

[36] Alfred D. Chandler, Jr., "The Beginnings of "Big business" in American industry," *The Business*

	1840	1870	1900	1930
Northernwest	39.5	31.9	27.6	27.9
Central North	19.6	33.7	34.6	31.3
South	40.6	31.9	32.2	30.7
West	0.3	2.6	5.7	10.0

Source: Chu-Han Bae and Sung-Hee Hong, "A Study of the Great Merger Movement," Annual Thesis Book, vol.23, (Seoul: Sungshil University, 1993), 5.

Table 5. The Ratio of Population in Urban and Rural Area (1840-1930) (%)

	1840	1870	1900	1930
Urban	10.8	25.7	39.7	56.2
Rural	89.2	74.3	60.3	43.8

Source: Chu-Han Bae and Sung-Hee Hong, "A Study of the Great Merger Movement," *Annual Thesis Book*, vol.23, (Seoul: Sungshil University, 1993), 6.

While the population of northern area was 40 percent of all populations in 1840, but it became 28 percent in 1930, that of the West changed from 1 percent into 10.0 percent during these years. At the same time, the population of urban area was 11 percent of all population in 1840, whereas that of urban area was 40 percent in 1900.[37] This surge of population redispersion resulted in change of employment and move toward the West.

History Review 33 (Spring 1959), 335-37.

[37] The growing importance of industry and trade is reflected in the urbanization process of the period. In 1870 there were 226 cities with 8,000 or more inhabitants; in 1880 the number was 285, and in 1890 it

b) Development of technology

"The Industrial Revolution" ushered in a period of unprecedented technological progress, evidenced by a vast number of inventions in various fields as well as by thoroughgoing changed in the techniques of production. This includes the new methods of utilizing steam, gas, coal, and oil as sources of productive energy, the phenomenal progress in iron and steel production and the introduction of automatic machinery to replace simple tools in manufacturing industries.[38] The development of such office machinery as the typewriter, adding machine and cash register also contributed to the organization and expansion of business activity. Of equally great importance was the increasing use of swiftly interchangeable machinery part as well as the growing of the values of product standardization and the specialization of the production of individual firms. These developments were all prerequisites for the large-scale production rapidly becoming characteristic of the new era. Table 6 reflects well the surge of new invention at those times.

Table 6. The Number of Patent Licenses (1870-1910)

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was 445.

[38] Production of pig iron in the United States in thousands of gross tons in the year 1870 amounted to 1,665, in 1880 to 3,835 and in 1890 to 9,203. The important thing to the development of American industry was the extraordinary decline in prices of basic materials in this period. From 1866 to 1897 the price of pig iron, in gold, fell from $33.26 to $12.10 per ton; and the price of Bessemer steel rails over the same period, also in gold, fell from $120.18 to $18.75 per ton. The tapering off of gold production throughout the world may have had something to do with price decline; but more important thing was the lowering of costs due to technology and superior management. See Thorelli, footnote 33, 63.

Year	Invention	Design	Total
1870	12,137	737	13,518
1880	12,903	514	14,204
1890	25,313	886	28,304
1900	24,646	1,754	29,881
1910	35,141	636	39,496

Source: U.S. Bureau of Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington D.C.: U.S. Government Printing Office, 1976), 957-8.

c) The development of transportation system

One more primary requirement was met during this period in the creation of a comprehensive transportation system.[39] Without efficient transportation of cattle, for instance, the possibilities of the Chicago meat-packing industry would have been limited indeed. However, there was a cumulative mutual stimulus here, the larger factories demanding wider market in their turn. By means of railroads especially, and telecommunications, local markets grew into regional ones and regional into national ones in a few decades.

These development in the industrial economy created a new pattern of competition which was becoming characteristic in a steadily growing number of industries. In order

[39] Railroad mileage in operation in 1870 was 52,887; in 1889 it had grown to 93,262 and in 1890 to 166,654.

to evade bankruptcy companies must choose new strategy like combination.[40]

d) Growth of opposition to trusts

Wartime prosperity stemmed from the Civil War was followed by a period of strongly declining prices of farm products, which by and large extended well beyond 1890. It is in this almost permanent agricultural depression during the postwar decades that western discontent took root. The farmer felt that he had numerous other causes of complaint such as the policies of eastern credit institutions. Their interest rates were held to be extortionate in period of declining agricultural prices and recurrent legislative measures to reevaluate the currency. Furthermore, eastern capital was suspected of desiring to check independent economics development in the South and West. Discontent was also widely felt with the allegedly "monopolistic" price policies of producers of agricultural machinery and other goods needed in rural areas. Certain farm groups began to apply the term "monopoly" indiscriminately to any industrial or trading establishment.[41]

However, antitrust sentiment was not only farmers'. In fact, hatred of monopoly is one of oldest American political habits and like most profound traditions, it consisted of an essentially permanent idea expressed differently at different times. The trust was popularly regarded as nothing but a new form of monopoly, and the whole force of

[40] The high competition was one of motives of accelerating merger movement. However, I will discuss in the following pages whether more important motives to accelerate merger movement existed.

[41] Thorelli, 161.

tradition was focused against it immediately.[42]

In the years immediately before Sherman Act, between 1888 and 1890, the public hated the trust fervently. Radical agitators and polite reformers spoke of the "people's wrath". Journalists gave every action of the trusts and of their critics ample publicity, which suggests that they did not find their readers indifferent.[43]

The general position of American economists during the years after 1885 may be detected by American Economic Association. Basically, economists believed that Darwin's law governed the evolution of human society and social organism. Any social change was an organization that many producers formed in order to act jointly, these economists regarded it as an evolutionary advance. Thus they assumed that trust was the only way to correct competition and the chaotic economic conditions. They concluded that trust was not only inevitable but in many instances beneficial even if they advocated some sort of public regulation.

However, the lawyers saw that the common law permitted trust in some instances and prohibited in the others. Some of lawyers insisted that the common law was good enough without acting criminal statues regulating trusts if it were only administered. Other lawyers, however, said that more force was necessary. In spite of their opinion, they did not suggest any statues should be framed. Furthermore, the states lacked authority to regulate corporations engaged in interstate commerce. Therefore, if antitrust legislation were needed and it were to be effective against powerful trust, Congress

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[42] William Letwin, *Law and Economic Policy in America* (New York: Random House, 1965), 59.

[43] See Thorelli, 132-43. However, John D. Clark questioned this standard opinion at his book, *Federal Trust Policy* in 1931. Clark concluded that few books and journals were published on the trust problem before 1890 and the public was not hysterical but indifferent. On the contrary, William Letwin criticized

must pass it.

B. Aspect of the Great Merger Movement

Before discussing aspect of the first merger movement, I will examin in short aspect of merger 1870s and 1880s and thereafter review the first merger movement.

1. Aspect of Merger Movement during the 1870s and 1880s

American manufacturers began in the 1870s to take the initial step to growth by way of merger- that is, to set up nationwide associations to control price and production. They did so primarily as a response to the continuing price decline, which became oppressive after the panic of 1873 ushered in a prolonged economic depression. That long-term price decline reflected the complex interaction between the supply of money and the rapid expansion of output.[44] Industrial output soared as manufacturers widely adopted the new factory form of production. The wholesale price index on all commodities fell from 151 in 1869 to 82 in 1886, on farm products from 227 to 110. To most manufacturers the only practical responded to rising output and falling prices was from national associations to maintain prices by curtailing production.

By the 1880s these federation had become part of the normal way of doing business in

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Clark, insisting more journals than Clark realized were covered trust issue. See Letwin, 54-70.

[44] See Milton Friedman and Anna J. Schwarz, *A Monetary History of the United Sates, 1867-1960* (Princeton: Princeton University Press, 1963), Chap. 2.This chapter provides authoritative account of this interaction.

most American industries. Trade associations for the purpose of controlling price and production had appeared in the mechanical industries, including those making lumber, woodware, flooring, and shoes etc. They came in the refining and other chemically oriented industries - those producing petroleum, rubber footware, explosives, glass, paper, and leather.[45] In the hardware industries alone, over fifty different trades associations managed cartels for as many specialized products.[46] As Table 7 shows, no industry appears to have been immune. Only in textiles, apparel, publishing, and printing were the number of trade associations small.

[45] They came in the foundry and furnace industries-those making iron, steel, copper, brass, lead, and other metals. In addition, they occurred in industries fabricating metals into bars, wire, rails, mails, sheets, and all types of metal implements and machines.

[46] William H. Becker, "American Wholesale Hardware Trade Associations, 1870-1900," *Business History Review*, vol. 45 (Summer 1971), 182-85.

Table 7. Manufacturers' Trade Associations in the Hardware Trades, 1870s and 1880s

1870s	
Augrus, bits	Pumps
Door locks	Cast iron butts
Knobs	Rakes
Padlocks	Furniture hardware
Cast burts	Locks
Fluting machines	Hose
Stamped ware (common and deep fry pans)	Bench planes
Wood screws	Shears
Nuts, bolts	Brass
Table cutlery	Tacks
Hinges	Axes
Hollow ware (kettles, bellied pots, etc.)	Clothes wringers
Picks	Rules
Mattocks	Bit braces
Grub hoes	Sash weights
Sledges, hammers	Furniture casters
Strap, T.hinges	Carriage hardware
Cordage	Wrought butts, hinges
Nails	Stoves
1880s	
Clocks	Bicycle tubing

Carriage bolts	Snaths
Curry bombs	Truck locks
Wire	Wood planes
Soil pipe, fittings	Circular saws
Shovels	Sinks
Stove boards	Padlocks
Files	Boring implements

Source: William H. Becker, "American Wholesale Hardware Trade Associations, 1870-1900," *Business History Review*, vol. 45 (Summer 1971), 1832. Aspect of the Great Merger Movement

2. Aspect of the Great Merger Movement

The mergers of the 1890s came in two waves. One occurred between 1890 and 1893. The other and much larger surge began as the country recovered from the depression of the middle years of the decade. The first wave, resulting from the legal attack on combinations, the passage of the Sherman Act, and the revisions of the New Jersey law, lasted as long as times were prosperous. Hans Thorelli lists the names of 51 holding companies or "tight combinations" formed between 1890 and 1893.[47] With coming of the depression of 1893 the number of new mergers fell off sharply. Only 27 occurred for the next three calendar years, 1894 through 1896. Then came the Great Merger Movement. In the following section I shall discuss the first merger movement.

a) Characteristics

The magnitude of merger activity can be described in two ways: first, in terms of the net number of firms disappearing because of merger, i.e. the net reduction in the business population due to merger; second, in terms of the sum of the sizes of firms disappearing into mergers. The measure of firm size used in this study is the capitalization of the mergers.

Table 8 shows the remarkable increase in mergers that occurred in the late 1890s. The number of firms absorbed by merger rose from sixty-nine to 303 between 1897 and 1898, and rose further to 1,208 in 1899. The first important characteristic is that consolidation of several firms, rather than piecemeal acquisition, accounted for roughly 90 percent of all firms disappearances until 1902.[48]

The second characteristic is the wide scope of the merger wave. Based on capitalization values, the merger movement as a whole seems to have encompassed between one-fourth and one-half of U.S. industry.[49]

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[47] Thorelli, 294-303.

[48] The distinction between the consolidation form of merger and the acquisition form is in part between single and multiple mergers, and in part between all-at-once and one-at-a-tome mergers. A consolidation is the more or less simultaneous multiple-union of firms into a consolidated company, an acquisition is the taking over of one firm by another, either as an isolated action or as one of extended series. Consolidations may represent an attempt to secure a dominating market position directly without lengthy competitive war. A series of acquisitions, too, may represent attempts to secure market control, especially if legal restrictions or insufficient financial resources prevent consolidation a large number of firms at one time.

[49] George Bittlingmayer, "Did Antitrust Policy Cause the Great Merger Movement?", *Journal of Law &*

Table 8. Firm Disappearances by Merger and Merger Capitalizations, 1895-1920

Year	Firm Disappearances by merger	Merger Capitalizations (millions of dollars)
1895	43	40.8
1896	26	24.7
1897	69	119.7
1898	303	650.6
1899	1,208	2,262.7
1900	340	442.4
1901	423	2,502.9
1902	379	910.8
1903	142	297.6
1904	79	110.5
1905	226	243.0
1906	128	377.8
1907	87	184.8
1908	50	187.6
1909	49	89.1

Economics 28 (1985), 93. According to another estimate, 318 industrial combinations formed in the years 1897-1904 controlled 40 percent of U.S. manufacturing capital.

1910	142	257.0
1911	103	210.5
1912	82	322.4
1913	85	175.6
1914	39	159.6
1915	71	158.4
1916	117	470.0
1917	195	678.7
1918	71	254.2
1919	171	981.7
1920	206	1,088.6

Source: Ralph L. Nelson, *Merger Movements in American Industry 1895-1956* (Princeton: Princeton University Press, 1959), 60.

The third characteristic is that mergers were found in almost all major manufacturing and mining industries, but a disproportionate share was accounted for by a relatively few industries as Table 9 shows. The great majority of merger activity occurred in nine industries: food and kindred products, tobacco, chemical and allied products, textile, primary metals, metal products, nonelectrical machinery, transportation equipment, and bituminous coal mining. The nine industries accounted for 73.1 percent of 1898-1902 firm disappearance by merger and for 85.8 percent of merger capitalizations. Among them, the first four groups- foods, primary metals, metal products, and transportation equipment- accounted for 45.1 percent of firm disappearances and 66.7 percent of

merger capitalizations. Primary metals alone accounted for 16.1 percent of firm disappearances and for 30.2 percent of merger capitalizations.

Table 9. Distribution of 1898-1902 Merger Activity in Manufacturing and Mining by Two-Digit Industry Classes

Industry	Firm Disappearances by Merger	Merger Capitalizations (millions of dollars)
Manufacturing		
Ordnance	1	10,000
Food and kindred products	433	651,467
Tobacco products	104	287,487
Textile	76	190,671
Apparel	0	0
Lumber, wood products	36	26,908
Furniture, fixtures	24	10,000
Paper and allied products	110	151,156
Printing, publishing	5	10,000
Chemicals	178	254,266
Petroleum products	18	52,000
Rubber products	14	78,501
Leather and products	22	36,000
Stone, clay, glass products	180	120,850
Primary metals	426	2,829,321

Metal products	180	281,055
Machinery	114	330,106
Electrical machinery, etc.	18	55,100
Transportation equipment	122	368,362
Instruments, optical goods, etc.	18	18,130
Miscellaneous manufacturing	51	54,143
Mining		
Metal mining	36	133,644
Bitumious coal mining	266	178,796
Petroleum and gas extraction	38	40,100
Nonmetallic minerals mining	86	26,100
Ice, natural and manufactured	42	73,696
Not allocable	34	51,240
Total manufacturing	2,130	5,816,623
Total mining	443	378,640
Total manufacturing and mining	2,573	6,195,263

Source: Computed from Ralph L. Nelson, *Merger Movements in American Industry* (Princeton: Princeton University Press, 1959), 144-53.

The fourth characteristic is that the incorporation of consolidation was concentrated on a few states like New Jersey, New York, and Delaware as Table 4-10 indicates. Mergers are governed by state corporation laws, which define the conditions under which a corporation can secure capital, the lines of business, and its power to hold the stock of other corporations. If the corporate charter permits wide latitude in these matters, it will be easy for the firm to engage in merger activity. On the contrary, if the charter is strict, merger will be difficult or impossible.

As Table 10 shows, New Jersey dominated overwhelmingly consolidation activity during 1895-1904. New York and Delaware rose from a minor fraction merger activity. This may suggest the degree to which states changed each corporation laws.

Table 10. Consolidation Activity in Leading States, 1895-1904

(%)

	Percentage of Total Consolidation Activity		
	Capitalizations	Disappearances	Consolidations
New Jersey	79.1	61.3	50.0
New York	3.7	5.5	9.7
Delaware	2.6	1.9	3.8
Pennsylvania	3.2	9.2	7.2
West Virginia	0.7	1.7	3.1
Virginia	0.6	1.9	0.9
Maine	0.8	1.4	2.8

Total Consolidation Activity (dollars)	6,026,580,000	1,184,493,000	313

Source: Constructed from Ralph L. Nelson, *Merger Movements in American Industry* (Princeton: Princeton University Press, 1959), 67.

b) The success and failure of merger

The basic finding indicated by Table 4-11 is that successful mergers occurred in the same type of industries in which the integrated firm had appeared in the 1880s. There were fewer mergers and more failures in labor-intensive industries where the concentration of production did not significantly reduce costs and where distribution did not involve high-volume flows or did not require special service. In the textile group where nearly all the mergers failed, only one case was marginally successful. In the machinery group, failures dominated in industries that did not require specialized services in the selling of products or a complex technology in making them. These included mergers for the production of shears, laundry machine, and simple agricultural implements such as forks and hoes.

On the other hand, successful mergers were most numerous in the high-volume, large-batch or continuous industries and in those needing specialized marketing services. These were particularly successful in food and in complex but standardized machines. They also numerous in the chemical, stone-glass-clay, and primary metals groups-industries in which enterprises used capital-intensive, energy-consuming technologies and distributed standardized products to many customers.

Table 11 shows that mergers were rarely successful until managerial hierarchies were created-that is, until production was consolidated and its administration centralized and until the firm had its own marketing and purchasing organizations. As the table indicates, the successful firms had integrated. Moreover, the firms which were listed as rejuvenated moved from failure to success only after they had changed their strategy and structure.[50]

During the 1890s mergers had become a standard way of creating large multi-unit industrial enterprises. Those formed to control competition or to profit from the process of merger itself often brought short-term gains. However, they rarely assured long-term profits. Unless the newly formed consolidation used the resources under its control more efficiently than had the constituent companies before they joined merger, the consolidation had little staying power. Few enjoyed continuing financial success until they had followed the example of the pioneering mergers and created an organization that was able to coordinate a high-volume flow of materials.

The experience of the Great Merger Movement provides that few mergers achieved long-term profitability until their organizers carried out a strategy to make such integration possible.

Table 11. The Success and Failure of Mergers 1898-1902

Firms	Classification	Type	Authorized stock capital (millions of dollars)

[50] Chandler Jr., 337-39.

Mining companies			
Pittsburgh Coal	F	I	64
Food and kindred products			
American Beet Sugar	M	I	20
American Chicle	S	I	9
American Fisheries	F	_	10
American Fruit Products	F	_	2
American Ice	S	I	40
American Malting	F	_	30
Continental Cotton Oil	F	_	6
Corn Products	F	_	80
Distilling Co. of America	F	_	85
Great Western Cereal	F	_	3
National Biscuit	S	I	55
National Candy	S	I	9
Royal Baking Powder	S	I	20
United Fruit	S	I	20
U.S. Flour Milling (Standard Milling)	R	I (Inc.)	25
Textile			
American Felt	F	_	5
American Grass Twine	F	_	15

American Thread	M	SF	12
American Woolen	F	I	65
Mt.Vernon-Woodbury	F	_	9.5
New England Cotton Yarn	F	_	11.5
U.S. Cotton Duck	F	_	50
U.S. Finishing	F	_	3
U.S. Worsted	F	_	36
Lumber and wood products excluding furniture			
American Barrel & Package	F	_	20
National Casket	S	I	6
Furniture and fixture			
American School Furniture	R	I (Inc.)	10
Paper and allied products			
American Writing Paper	F	I	25
International Paper	M	I	45
Union Bag and Paper	M	I	27
U.S. Envelope	S	_	1.75
Chemicals			
American Agricultural Chemical	F	I	40
Du Pont	S	I	20
General Chemical	S	I	25

National Carbon	S	I	10
National Salt	R	I (Inc.)	12
U.S. Dyewood & Extract	F	_	10
U.S. Glue	S	_ (Insuf.)	35
Petroleum refining and related products			
Asphalt Co. of America	F	_	30
National Asphalt	F	_	22
Pure Oil	S	I	10
Rubber and miscellaneous plastic products			
American Hard Rubber	S	_ (Insuf.)	2.5
Consolidated Rubber Tire	F	_	10
Leather and its products			
American Hide & Leather	F	I	35
Stone, clay, and glass products			
American Clay Mfg.	S	I	10
Harbison-Walker Refractories	S	I	22.25
National Fire Proofing	M	I	3.5
National Glass	F	_	4
U.S. Gypsum	S	I	7.5

Primary metal industries			
American Brass	S	SF	6
American Smelting & Refining	S	I	65
American Steel Foundries	S	I	40
Central Foundry	R	I	14
International Nickel	S	I	24
Republic Iron & Steel	M	I	55
U.S. Cast Iron Pipe	R	I	30
U.S. Steel	S	I	95
Fabricated metal products except ordnance, machinery, and transport equipment			
American Brake Shoe	S	I	4.5
American Can	S	I	88
Machinery			
Allis-Chalmers	R	I	50
American Fork & Hoe	F	_	4
American Laundry Machinery	F	_	16
American Pneumatic Service	S	I	15
American Radiator	S	I	10

Chicago Pneumatic Tool	S	I	5
International Harvester	S	I	120
International Steam Pump	F	I	27.5
National Shear	F	_	3
Otis Elevator	S	I	11
United Shoe Machinery	S	I	25
Transportation equipment			
American Bicycle	F	_	30
American Car & Foundry	S	I	60
Consolidated Railway Lighting & Equipment	F	_	22
Consolidated Railway Lighting & Refrigeration	F	_	16
International Car Wheel	F	_	15
International Fire Engine	R	I	9
Pressed Steel Car	M	I	25
Pullman	S	I (Inc.)	74
Railway Steel Spring	M	I	20
U.S. Shipbuilding	F	_	45
Miscellaneous manufacturers			
Diamond Match	S	I	15
International Silver	S	I	20

United Button	F	_	3

Source: Shaw Livermore, "The Success of Industrial Mergers," Quarterly Journal of Economics, November 1935, 50:68-95 quoted in Alfred Chandler Jr., *The Visible Hand* (Cambridge: Harvard University Press, 1978), 340-44.; Hans B. Thorelli, *Federal Antitrust Policy* (Baltimore: The Johns Hopkins Press, 1955) 300-3.

Note: F represents failure; R indicates rejuvenated company; M means marginal success; and S is successful enterprise.

I indicates integrated; SF indicates single function. (Inc.) means information incomplete but enough to suggest type. (Insuf.) means information not sufficient to indicate type.

The two-digit groups used by the U.S. Bureau of the Census in its Standard Industrial Classification.

V. Theories of Causality on the Great Merger Movement

There are many explanations on the cause of the Great Merger Movement, none of which commanded general acceptance. The main reason is that the data on mergers were inadequate for careful tests. Having no even similar precedent, the wave seemed to be historically unique.

The principal theories on the causes of the Great Merger Movement are as follows; retardation of industrial growth; expansion of the national railroad system; the growth of the capital market; judicial policy. In the following sections I will review these theories and suggest my viewpoint.

A. Retardation of Industrial Growth

1. Outline

The principal exponent of this thesis is Myron Watkins. According to him, the opening of a new and wider market involves pioneering costs which call for the compact association of producers. But once a new market has been opened by the joint action of the associated producers, its development attracts many producers. The final phase is reached when the limit of the expansion of a given market has been touched, and the amount and character of its consumption have become settled and known. The gains from initiative are no longer sufficient to hold producers upon an independent course and they fall in together for their common enrichment at the expense of consumers.[51]

Watkins pointed out four causes of the retardation in market growth: closing of the frontier, the slackening of population growth, the slowing of technological change, and post-1873 secular decline in prices. He had in mind that these various tendencies converged at the end of the nineteenth century and set the stage for the merger movement.

In order to prove his theory, he offered examination of specific data on the general patterns of industrial growth in the period before 1895, the growth of patterns of industries having high merger activity, and the relation of these patterns to the first merger wave. What the retardation theory implies is that at the turn of the century

[51] Myron Watkins, *Industrial Combinations and Public Policy* (Cambridge: Harvard University Press,

there was a change in the pattern of industrial growth of sufficient magnitude or abruptness to force competitors to band together to alleviate ruinous tendencies of falling demand and drastic decline.

2. Critical review[52]

The truth of this theory depends upon whether there was a marked increase in general retardation just preceding the merger movement and the industries characterized by high merger activity were in fact experiencing retardation. In the next sections, I shall look to see

a) General pattern of growth

If retardation was a factor in the Great Merger Movement, there should be appearing at least sustained retardation in the period immediately proceeding the merger wave. Table 12 includes production series of industries in agriculture and fisheries, mining, manufactures and construction, transportation and trade which provide a general picture of the pattern of growth.

The table shows that the two overlapping decades immediately preceding the period of merger activity at the turn of the century, 1890-1900 and 1895-1905, saw the stabilization or reversal of the pattern of retardation. This appears in the proportion of series experiencing an increase at the rate of 10 percent or more per year and also in

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1927), 12-3.

the proportion of series experiencing a negative rate of increase. During 1890-1900 years, the proportion of series experiencing a rate of increase of 10 percent or more became stabilized. In addition, during 1895-1905, the proportion of the high growth rate series was increased sharply.

[52] See Nelson, 71-8.

Table 12. Increases and Decreases in Production Growth Rates, by Overlapping Decades, 1870-1930

Decade	Total Number of Series Covered	Rates of 10 per cent and Over		Rates of 0 or Less	
		Number of Series	Percentage of series covered	Number of series	Percentage of series covered
1870-1880	66	16	24.2	6	9.1
1875-1885	69	20	29.0	5	7.2
1880-1890	97	17	17.5	8	8.2
1885-1895	104	11	10.6	10	9.6
1890-1900	104	10	9.6	8	7.7
1895-1905	104	21	20.2	8	7.7
1900-1910	104	8	7.7	11	10.6
1905-1915	104	4	3.8	17	16.3
1910-1920	104	9	8.7	22	21.3
1915-1925	102	5	4.9	43	42.2
1920-1930	102	6	5.9	26	25.5

Source: Arthur F. Burns, *Production Trends in the United States Since 1870*, (New York: National Bureau of Economic Research, 1834), 81.

b) Growth rates in industries of high merger activity

Table 13 shows the trend of the growth rate pattern for the forty-four production series applicable to the eight industries of greatest merger activity.[53] This table reveals that the period immediately preceding the intense merger activity beginning in 1898 was characterized by acceleration rather than retardation in the growth of the industries of high merger activity. In the three overlapping decades 1885-1895, 1890-1900, and 1895-1905 there were successively larger decades-rates of growth. The proportion of series experiencing annual rates of growth of more than 10 percent increased from 9.1 percent to 31.8 percent of the total number series. The proportion of series experiencing a 5.0 to 9.9 percent rate of growth increased from 43.1 percent to 47.7 percent of the total. The proportion of the total number of series experiencing a less than 5 percent rate of growth decreased from 47.8 percent to 20.5 percent of the total.

[53] Eight industries include food and kindred products, tobacco products, chemicals, stone·glass·nonmetallic minerals, iron and steel mills, nonferrous smelting·refining·foundries·mines, transportation equipment, bituminous coal mining, metal products, machinery except electrical, and paper and allied products.

Table 13. Annual Growth Rates of Industries with high 1898-1902

Relative Merger Activity by Overlapping Decades, 1870-1915

Decade	Total Number of Series Covered	Percentage of Series by Average Annual Growth Rate of Output (%)			
		10 or more	5.0-9.9	0.0-4.9	Less than 0
1870-1880	23	26.1	43.5	21.7	8.7
1875-1885	24	37.5	45.9	8.3	8.3
1880-1890	38	18.4	44.7	34.2	2.7
1885-1895	44	9.1	43.1	45.5	2.3
1890-1900	44	11.4	47.7	41.0	4.5
1895-1905	44	31.8	47.7	18.2	2.3
1900-1910	44	11.3	41.0	41.0	6.7
1905-1915	44	6.8	25.0	59.1	9.1

Source: Ralph L. Nelson, *Merger Movements in American Industry*, (Princeton: Princeton University Press, 1959), 76.

Considering statistical numbers, there is no base that the growth of retardation caused the Great Merger Movement. Rather, there existed stabilization or increase in growth rates for industry in general. In the industries of high merger activity, there was the reversal of retardation.

B. Development of the Railroad System

1. Outline

Joe S. Bain is the principal exponent of theory which the development of railroad system incurred the first merger movement at the end of nineteenth century. Most of economists buttressed the idea that the railroad was an imperative of economic growth.[54] They emphasized that there were the impact of the railroad on the growth of cities and the high correlation between new railroad construction and both population growth and commercial activity. Bain, furthermore, the first merger movement was the achievement of building railroads systems at that time.

According to Bain, competition was intensified by the continuing growth of the railroad systems, which tended to bring all of the principal firms together in direct competition for a single national market. The economy was passing from a situation where a fairy large number of small manufacturers sold their products, each in a limited local market somewhat protected by high costs of transportation, to a situation where a few large firms vied among themselves for sales in a single market. In the new environment, price competition was potentially ruinous to all.[55] In this view,

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[54] See Leland H. Jenks, "Railroad as an Economic Force in American Development," *The Journal of Economic History*, IV, No. 1 (1944), 1-20; reprinted in F. C. Lane and J. G. Riesmersma, *Enterprise and Secular Change* (Homewood, 1953), 161-80. Robert Fogel tried a quantitative approach to a casual relationship between the development of railroad systems and American economic growth. See Robert W. Fogel, "A Quantitative Approach to the Study of Railroads in American Economic Growth: A Report of Some Preliminary Findings," in A. W. Coats & Ross M. Robertson, *Essays in American Economic History* (New York: Barnes and Nobel, 1970), 187-214.

[55] Joe S. Bain, "Industrial Concentration and Government Anti-Trust Policy," in *The Growth of the American Economy*, H. F. Williamson, ed. (New York: Prentice-Hall, 1944), 710.

producers combined to eliminate increasing competition. Through merger, producers could avoid ruinous competition and they could stabilize the markets for their products.

2. Critical review[56]

Suppose the development of railroad system caused merger, we may expect the industries in which the greatest merger activity occurred to have the following characteristics: first, the production would be of such nature that per-mile transportation costs are fairly large relative to product price. Reduced transportation costs would produce a large relative change in delivered price in distant markets, and thus provide the stimulus required to induce faraway producers to meet the prices of near-by producers. Second, the production of the product would be quite widely dispersed. If all producers were located in the same small geographical area, a decline in transportation costs would not change the character of the competition; it would already be a national market in the sense that all sellers could compete for the patronage of all buyers.

In order to test the validity of the railroad system growth-merger hypothesis, three factors must be examined.

First, it must be determined whether the railroad network expanded and transportation costs declined, in the years preceding the first merger movement. If these developments did not occur, or if there were only a small growth in transportation, the hypothesis would fail for lack of casual factor.

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[56] See Nelson 80-8.

Second, it is necessary to determine the proportion of the merger movement accounted for by industries having high-per mile transportation costs relative to the price of the product. This provides a rough measure of the proportion of total merger activity that could have occurred in response to declines in transportation cost. If this share is relatively small, the transportation growth factor can have played only a contributory rather than a dominant role in the movement.

Third, it must be determined whether the industries with high per-mile transportation costs relative to product price had widely dispersed producing centers. If these industries were concentrated on relatively small geographical areas, then reductions in transportation costs would not alter the effective market areas of firms relative to each other.

a) Trends in railroad growth before the Great Merger Movement

The development of the railroad transportation system and the trend in freight rates and wholesale prices are described in Table 14. The period 1882-1896 saw a large absolute expansion in the railroad system. Miles of track increased from 114,400 to 182,800, 59.8 percent. Ton-miles of freight carried increased from 39.3 million to 114.1 millions, an increase of 190 percent. The cost of freight transportation dropped from 1.236 cents per ton- mile in 1882 to 0.806 cents in 1896, a drop of 34.8 percent.

Table 14. Railroad Mileage, Freight Ton-Miles, Freight Revenue per Ton-Mile, and Wholesale Prices, 1882-1906

Year	Railroad Mileage (thousands of miles)	Freight Ton-Miles (millions)	Freight Revenue per Ton-Mile (cents)	Wholesale Price Index (BLS, 1926=100)
1882	114.4	39.3	1.236	66.1
1884	125.1	44.7	1.124	60.5
1886	133.6	52.8	1.042	56.0
1888	154.2	65.4	0.977	57.4
1890*	163.4 163.6	79.2 76.2	0.927 0.941	56.2
1892	171.6	88.2	0.898	52.2
1894	178.7	80.3	0.860	47.9
1896	182.8	95.3	0.806	46.5
1898	186.4	114.1	0.753	48.5
1900	193.3	141.6	0.729	56.1
1902	202.5	157.3	0.757	58.9
1904	213.9	174.5	0.780	59.7
1906	224.4	215.9	0.748	61.8

* The two values for 1890 represent a shift in data sources. For the period 1882-1890 the Interstate Commerce Commission compiled railroad statistics from annual issues of Poor's Manual of Railroads. From 1890 forward the data were compiled from the direct reports of railroads to the I.C.C.

Source: Ralph L. Nelson, *Merger Movement in American Industry* (Princeton: Princeton University Press, 1959), 81.

b) Merger activity and transportation costs

In this section, the main contention is whether mergers occurred in industries where transportation costs are high, but not prohibitive, relative to the price of the product. With a view to demonstrating the incidence of high and low transportation costs among industries in which merger activity occurred, the following classification by transportation costs has been made:

1. Industries with a characteristically local market
2. Industries with low transportation costs relative to price of product
3. Industries with high transportation costs relative to price of product
4. Industries for which the role of t costs relative to price of product
5. Industries for which the role of transportation costs could not be clearly ascertained

The first category, local market industries, includes breweries, firms producing brick, sand and gravel, crushed stone, ice, and the like. The extreme weight and bulk of the products, and ubiquity of their source materials have restricted their markets to local areas despite sharp reductions in transportation costs.

The second category, industries with national market but low transportation costs, contains nonperishable and semi-perishable products like wines, distilled liquors, tobacco, and apparel etc..

The third category, industries with national markets and high transportation costs, includes basic minerals and products of large bulk and weight with a low degree of

fabrication. It includes metal mining, meat products, sugar, lumber, and so forth.

The fourth category, nonallocable, includes nonperishable products of low bulk and weight, with a moderate degree of fabrication and highly fabricated but bulky products. In this category were also placed those products whose transportation cost characteristics were too unclear to allow assignment to another category.

Table 15 summarizes the breakdown of merger activity by the role if transportation costs. The measure of merger activity used is firm disappearances by consolidation and acquisition. As the table indicates, a majority of merger occurred in industries in which transportation costs were an important factor in delivered price of the product. One of 2,546 firm disappearances which could be allocated to a major or minor transportation importance category, 1,457, or 57 percent occurred in industries where a reduction in transportation costs were important. The remaining 1,089 disappearances, or 43 percent, occurred in industries where a reduction in transportation costs could be expected to have had little effect. In calculations based on the consolidation series only, 59 percent of allocable disappearances occurred in industries in which transportation costs were important.

Table 15. Merger Activity in Terms of Relative Importance of Transportation Costs to the Industry, 1895-1904

Transportation costs of -	Firm Disappearances		Percentage of Total Disappearances	
	All merger activity	Consolidations only	All merger activity	Consolidations only
Major importance	1,457	1,258	48.4	50.5
Minor importance				
Local Industries	304	289	10.1	11.6
National industries: low Transportation costs	785	573	26.1	23.0
Importance not ascertained	466	373	15.5	15.0
Total	3,012	2,493	100.0	100.0

Source: Ralph L. Nelson, *Merger Movement in American Industry* (Princeton: Princeton University Press, 1959) 84.

Even if the proportion of merger activity in which transportation cost reductions may have had an effect is sufficiently large, a substantial share of merger activity occurred in industries in which transportation cost declines would not have had an appreciable effect. Therefore, it cannot be concluded that mergers occurred in high transportation-cost industries.

c) Geographical concentration and merger activity

To determine whether there was negative relationship between merger activity and geographical concentration, an indication of the greater geographical concentration of high transport-cost industries is provided in Table 16 and a correlation analysis was shown in Table 17.

The geographical concentration of an industry was measured by using the proportion of industry wage-earner employment in the three adjoining states of highest employment. The industries accounted for 1,676 net disappearances, or 68.5 percent of the 2,445 net manufacturing disappearances 1895-1904. Among these industries the high transport-cost industries showed higher geographical concentration than either low transportation-cost industries or merger industries in general.

Table 16. Geographical Concentration of Manufacturing among Industries Classified by the Size of Transportation Costs Relative to Product Price, 1895-1904

Transportation Costs Relative to Product Price	Number of Industries	Average Index of Geographical Concentration	
		Simple	Weighted*
High	10	0.510	0.557
Low	6	.477	.479
Local markets	2	.312	.293
Costs not ascertained	5	.451	.454
Total	23	.471	.511

* Weighted by net firm disappearances.

Source: Ralph L. Nelson, *Merger Movements in American Industry* (Princeton: Princeton University Press, 1959), 85.

In addition, it is possible to correlate relative merger activity with geographical concentration for twenty two-and three digit industries in Table 17.

Table 17. Relative Merger Activity and Geographical Concentration for Twenty Industries, 1895-1904

Standard Industrial Classification	Relative Merger Activity		Geographical Concentration
	All merger activity	Consolidations only	
Meat products	0.294	0.013	0.547
Dairy products	.201	1.38	.290
Canning fruits &	.153	.138	.307
vegetables	.949	.573	.247
Grain mill products	.136	.135	.543
Textiles	.083	.068	.480
Lumber and furniture	.561	.540	.180
Paper and allied products	.031	.026	.455
Printing, publishing			.336
Industrial organic	.061	.041	.280

chemicals	.334	.324	.542
Paints	.953	.746	.274
Fertilizers	.007	.007	.365
Petroleum	.163	.159	.505
Leather	.402	.398	.636
Glass	2.505	2.311	.688
Iron and steel	.730	.709	.518
Farm machinery	.439	.388	.571
Electrical machinery etc.	2.190	1.654	.507
Motor vehicles	.342	.328	.348
Ship and Boat building			

Source: Ralph L. Nelson, *Merger Movements in American Industry* (Princeton: Princeton University Press, 1959), 86.

According to table, a moderate degree of positive relationship existed between the merger activity of an industry and its geographical concentration, which suggests that less intensive merger activity occurred in industries in which producing centers were widely dispersed.

To be brief, the findings from discussion are that first, the expansion of railroad system occurred in the years preceding the first merger movement and there existed a substantial decline in the relative cost of transportation. In addition, a considerable part

of total 1895-1904 merger activity in manufacturing and mining took place in those industries in which transportation costs were large relative to the price of the product. Finally, the geographical concentration of higher transport cost industries was higher than that for low-transport cost industries, suggesting that there were few geographical barriers to be broken down by transportation cost reductions.

Therefore, at least, the high proportion of merger activity occurring in industries with high transport costs was not due to reductions in these costs. Accordingly, the main logic of exponents of this theory is broken. There does not exists a significant casual relationship between the development of railroad system and the Great Merger Movement.

C. Development of Capital Market

1. Outline

George Stigler argues that the only persuasive reason for the Great Merger Movement is the development of modern corporation and the modern capital market.[57] According to Stigler, in a regime of individual proprietorships and partnerships, the capital requirement were a major obstacle to buying up the firms in an industry and unlimited liability was a major obstacle to the formation of partnerships. The power of early corporations were severely limited and then they could not hold stock in other corporations. For example, they could not merge with another corporation and they

[57] Stigler, 101.

often could not do business outside the state of incorporation.

Under these environments, New Jersey initiated the competition corporations, which in twenty years eliminated almost every restriction on mergers. In this same period the New York Stock Exchange developed into an effective market for industrial securities. Stigler argues that these institutional changes are causes for the development of the Great Merger Movement.

2. Critical review

Looking at corporation law and capital market as causes raises some questions.

First, the role of the new corporation laws is less than clear. New Jersey allowed holding companies and permitted corporations to exchange stock for property in 1889, nine years before the merger wave began.[58] Other states soon passed similar legislation. As early as New York adopted a provision legalizing corporation stockholding in her incorporation law and reduced requirements of publicity in corporate operations. The states of Delaware, Pennsylvania, Connecticut, Maine and West Virginia soon became conspicuous for the lax legislation. However, the year Delaware made new corporate law was in 1899 and the year Maine did was in 1901.

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[58] Bittlingmayer,108. The original text of Laws of the State of New Jersey, 1889, c.265, sec4 is as follows:

That the directors of any company incorporated under this act may purchase mines, manufactories or other property necessary for their business, or the stock of any company or companies owning, mining, manufacturing or producing materials, or other property necessary for their business, and issue stock to the amount of the value thereof in payment thereof, and the stock so issued shall be declared and be taken to be full-paid stock…

The Great Merger Movement was already proceeding at that time. Even if we admit New jersey retained her leadership in this field, the explanation of Stigler that corporate law caused the Great Merger Movement is not persuasive enough.

Second, corporations could consolidate even before 1889 with special permission of stated of legislatures if it hoped to do so. Moreover, they could purchase property and some conducted sub rosa holding company relations. In addition, the holding company played a role only after the merger wave got underway. According to Lewis Haney, just prior to the great holding company epoch which began in 1899 and reached its climax between that date and 1904, a number of consolidations of different type arose-complete consolidation.[59]

Third, it is difficult to say determinately that the stock market caused the first merger movement. Rather, the causation may be opposite direction. According to Ralph Nelson, from the years following the Civil War until the mid-1890's the number of stock issues listed rose almost continuously. This period was followed by the extensive railroad reorganizations of the 1890's, largely under the leadership of J.P. Morgan.[60]However, there was no marked increase in the number of listed issues in the 1890s, although the number of shares traded increased about threefold from 1896 to 1899.

Considering these points, it seems likely that the development of capital market was more the beneficiaries of the deepening of the market than its cause.

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[59] Lewis Haney, *Business Organization and Combination* (New York: Macmillian, 1913), 238 quoted in Bittlingmayer, 109.

[60] E. G. Campbell, *The Reorganization of the American Railroad System*, 1893-1900 (New York: Columbia University Press, 1938) quoted in Nelson, 90-1.

D. Suggested Theory

Under Common Law system like United States the influence of ruling by the Supreme Court is more considerable than that of ruling under Continental Law system. Moreover, it is not difficult to surmise that ruling by court affected merger trends in certain parts, considering the Sherman Act did not play role in the late nineteen centuries and had shortcomings. In the following sections, I shall review whether judicial policy affected the Great Merger Movement

1. Judicial Policy and the Great Merger Movement

a) Climate of the Supreme Court around the Great Merger Movement

The rate of turnover on the Supreme Court was unusually high around the year 1890. As from 1888 and including 1895, eight new justices took their seats on the bench. These were Chief Justice Fuller (1888) and Justices Lamar (1888), Brewer (1889), Brown (1890), Shiras (1892), Jackson (1893), White (1895) and Peckham (1895). Justice Mackenna was appointed in 1898, Oliver Wendell Holmes in 1902 and William R. Day in 1903.

Though turnover rate of the Supreme Court was high, the general doctrine dominated the Supreme Court during around 1890s and the Great Merger Movement was laissez faire. While it is true that laissez faire lost somewhat in popularity even in the early 1890's, it still dominated the Supreme Court. Not until the turn of the century did

opposition to laissez faire gain substantial ground. Edward S. Cowin pointed out that laissez faire mingled with " a compound of teachings of the Manchester school of political economy and a highly sentimentalized version of the doctrine of evolution.[61] However, there were other ingredients of doctrine, that is, traditional fears of expanding government powers, individualism, and the oft-mentioned classical American belief in "inevitable progress". These all mingled with elements of judicial conservatism.[62]

b) Evolution of judicial policy

As the first effort to control the economy at large, the Sherman Act posed special problems for judges. In some instances, antitrust cases called for a fuller understanding of monopolistic and competitive behavior than economic theory could offer. However, the greatest difficulty, especially pressing through the early years, was not so much to determine the facts of a case as to discover the meaning of the statute.

When the Sherman Act was tested in 1895 in *E. C. Knight*, a suit the federal government brought against the American Sugar Refining Company, the Supreme

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[61] Edward S. Cowin, *The Twilight of the Supreme Court* (New Haven: Yale University Press, 1934), 48.

[62] Most of the relevant elements of the philosophy embraced by a majority of the Supreme Court seem to underlie Justice Peckham's famous definition of the term "liberty" in the 14th Amendment in a well-known decision handed down in 1897:

The liberty mentioned in that amendment means not only the right of the citizen to be free from the mere physical restraint of his person, as by incarceration, but the term is deemed to embrace the right of the citizen to be free in the enjoyment of all his faculties; to be free to use them in all lawful ways; to live and work where he will; to earn his livelihood by any lawful calling; to pursue any livelihood or avocation; and for that purpose to enter into all contracts which may be proper, necessary and essential to his carrying out to a successful conclusion the purpose above mentioned.

Court upheld a consolidation involving the notorious Sugar Trust. This was viewed as a setback for antitrust policy and one widespread interpretation of *Knight* was that merger was legal.[63] A firestorm of indignation, including a dozen new state laws, followed *Knight*. The state legislation may also have resulted from the impression the Court gave that it was up to the states to do something about monopoly.[64]

The first cartel case to reach the Supreme Court, *Trans-Missouri*, was decided in March of 1897. The Court held that the merger was illegal. Then the Supreme Court in the *Joint Traffic* case (involving the Eastern Trunk Line Association) and in 1899 in the *Addystion Pipe and Steel* case, ruled clearly and precisely that any combination of business firms formed to fix prices or allocate markets violated the Sherman Act.

c) Principal antitrust cases

The key court decisions with regard to antitrust policy around the Great Merger Movement include *E. C. Knight, Trans-Missouri, Joint Traffic,* and *Addyston* cases. In the following section, I shall review these cases.

(1) United States v. E. C. Knight Co. et al. (1895)[65]

This was the first Sherman Act case to reach the Supreme Court and was involved in

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[63] See Richard A. Posner & Frank H. Easterbrook, *Antitrust* (St. Paul, Minn.: West Publishing Co, 1981), 36-8.

[64] Bittlingmayer, 87-9.

the Sugar Trust. The government's action in equity was begun in the Eastern District of Pennsylvania. The bill set forth that the American Sugar Refining Company (of New Jersey), which had been producing about 65 percent of all the sugar refined in the United States, had purchased the entire stock of the E. C. Knight Company and three other Pennsylvania corporations by agreements with the comparisons and their stockholders.

These four companies, operating refineries in Philadelphia, were responsible for an additional 33 percent of all the sugar produced in the country. As very little refined sugar was imported into the United States, these transactions served to give the trust almost complete control of the sugar industry and trade. The American Sugar Refining Company had paid for the stock acquired with parts of its own stock especially issued for that purpose. The government claimed that these facts constituted a violation of section 1 and 2 of the Sherman Act.

In 1895 Chief Justice Fuller affirmed the decision of the lower courts which followed that the contract and act could not be prohibited by a Federal statute. Fuller insisted that the suit turned solely on whether the contracts to buy up competitors were valid. It did not matter, Fuller said, whether monopoly meant only a privilege granted by the state or a power acquired by the private efforts of individuals. It did not matter whether the case involved a combination.

Some scholars criticized this ruling and the influence of this case was considerable as Jesse Markham emphasized.[66]

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[65] United States v. E. C. Knight, 156 U.S. 1 (1898).

[66] On the criticism of the ruling of Knight case, see Letwin, 161-7 and Jesse W. Markham, *Survey of the*

(2) United States v. Trans-Missouri Freight Association et al. (1897)[67]

This was a bill in equity filed by the United States in 1892 against the Trans Missouri Freight Association and its fifteen member railroad companies handling a substantial part of the traffic west of he Missouri River. The bill alleged a combination, institutionalized as the Freight Association, formed for the purpose of fixing uniform rates and regulations for nearly all freight handled by participating roads. A decree was requested to dissolve the association and to enjoin the companies from performing the underlying or any other agreement among them violating Section 1 and/or 2 of the Sherman Act. Defendants denied the effect of "suppressed" competition.

The Supreme Court held that it would not necessarily or probably "suppressed" competition and at the same time, the price was not reasonable. Also, all restraint of trade was illegal in terms of the Sherman Act and there was no exception.

(3) United States v. Joint Traffic Association (1898)[68]

A bill was filed in 1896 against the Joint Traffic Association, composed of thirty-odd railroads engaged in interstate transportation between the Atlantic seaboard on the one hand and Chicago and the Mississippi valley on the other. The government requested

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Evidence and Findings on Mergers in Business Concentration and Price Policy: A Report of the National Bureau of Economic Research, (Princeton: Princeton University Press, 1955), 166.

[67] United States v. Trans-Missouri Freight Association, 166 U.S. 290 (1897).

[68] United States v. Joint Traffic Association, 171 U.S. 505 (1898).

an injunction restraining the association form carrying into effect an agreement between the participating railroads to establish rates and regulations by joint action and aiming at proportionalizing the traffic between the roads. The government claimed that the contract violated the Interstate Commerce Act as well as Section 1 of the Sherman Act.

The Circuit Court dismissed the petition on 1896 and this decree was affirmed by the Court of Appeals for the Second Circuit on 1897. The Supreme Court reversed the decree of dismissal on October 24, 1898.

Defendants attempted to show that the rates established under the agreement must be reasonable. The argument was that the basis of these rates was the schedule of fares filed with the Interstate Commerce Commission before the agreement went into effect. The Court said that all restraint of trade was not per se illegal, since the restraint to boost business was legal and the Sherman Act prohibited the restrain of interstate trade which suppressed directly and effectively competition. This agreement among railroad companies should be regarded as restraining trade.

(4) United States v. Addyston Pipe and Steel Co. et al. (1899)[69]

The government filed against the Addyston Pipe and Steel Company and five other corporations constituting the "Associated Pipe Works." Based on Sections 1 and 2 of the Sherman Act, the government alleged a conspiracy to enhance prices by eliminating competition in the sale of cast-iron pipe in interstate commerce. The principal prayer of the government was that a decree should be entered dissolving the

[69] United States v. Addyston Pipe, 175 U.S. 211, 240 (1899)

conspiracy of defendants and enjoining them form operating under it.

At that time, defendants dominated the manufacture and distribution of cast-iron pipe in at least thirty states and territories. All in all, defendant's aggregate capacity amounted to about one-third of the total tonnage capacity in the country.

The thirty-six states and territories of special interest to defendants were referred to by them as "pay" territory, while remaining areas of the country were called "free" territory, in which defendants were at liberty to make sales without restriction. In the "pay" territory defendants after 1894 operated under a somewhat complicated bonus plan. As of June, 1895 the price of each contract in the "pay" territory was fixed in advance by the association. Thereafter an auction pool was established.

Taft, Circuit Judge, raised two questions: First, was the association of the defendants a contract, combination, or conspiracy in restraint of trade, as the terms are to be understood in the act? Second. Was the trade thus restrained trade between the states?

Taft said that a part of the plan was a deliberate attempt to create in the minds of the members of the public inviting bids the belief that competition existed between the defendants. Several of the defendants were required to bid at every letting, and to make their bids at such prices that the one already selected to obtain the contract should have the lowest bid. It is well settled that an agreement between intending bidders at a public auction or a public letting not to bid against each other, and thus to prevent competition, is a fraud upon the intending vendor or contractor, and the ensuing sale or contract will be set aside…No matter what the excuse for the combination by defendants in restraint of trade, the illegality of the means stamps it as a conspiracy, and so brings it within that term of the federal statute.

2. Relationship between key antitrust decision and merger activity[70]

Table 18 shows quarterly merger figures and some key antitrust history for the years 1895-1900. Bold-face numbers present where the quarterly merger figures reached a new high (beginning with the third quarter of 1895).

E. C. Knight was followed by three successive quarters of increased merger activity, consistent with the view that it did signal that merger was legal under the Sherman Act. Only twelve firm disappearances occurred between this mini-wave and the first quarter of 1897, when *Trans-Missouri* was announced and many state antitrust laws were passed. After a one-quarter lull, merger activity increased to unprecedented levels, then decreased just before the Addyston appears decision, only, to increase when the decision was announced. After another one quarter lull, merger activity increased steadily until early 1899 and remained above pre-1897 levels until the end of 1900.

However, as the lags could be variable and the cases are only a proxy for actual expected policy, we cannot say this data proves directly judicial policy caused merger activity. Interpretations of court doctrine by prominent authorities, initiatives to amend legislation, and declarations of war are all factors that could make mergers occur one or two quarters sooner or later. In the face of this possibility, another fact showed in the next section also proves the causality between judicial policy and the Great Merger Movement.

Table 18. Quarterly Merger Statistics and Antitrust Policy, 1895-1890

[70] Bittlingmayer, 97-102.

Year and Quarter	Manufacturing Merger Capitalizations (millions of dollars)	Quarterly Firm disappearances	Events
1895: I	1.0	3	*E.C. Knight*
II	10.4	14	
III	**14.5**	**24**	
IV	.6	1	
1896: I	6.1	3	
II	4.5	7	
III	0	0	Election of campaign
IV	1.3	1	of 1896
1897: I	10.0	8	State Law and *Trans-*
II	0	0	*Missouri*
III	**81.6**	**38**	
IV	10.3	17	
1898: I	**167.6**	**132**	Addyston (Appeals
II	44.7	64	Court)
III	**209.3**	19	
IV	**212.3**	76	*Joint Traffic*
1899: I	**862.4**	**410**	
II	522.4	271	
III	373.4	316	

IV	112.9	128	*Addyston* (Supreme
1900: I	149.9	147	Court)
II	126.9	55	
III	98.3	60	
IV	11.8	53	

Source: Ralph L. Nelson, *Merger Movements in American Industry* (Princeton: Princeton University Press, 1959), 139; George Bittlingmayer, "Did Antitrust Policy Cause the Great Merger Movement?", *Journal of Law & Economics* 28 (1985), 98.

3. Review industries

In this section, example industries provide merger activity followed court key decisions.

(1) Railroading

Railroading provides instanced in which production is carried out with substantial fixed expenses, and in which the relevant market (transportation between two points) frequently has few competitors. In addition, railroad cartel were the focus of the first two significant cartel cases to reach the Supreme Court.

Railroad had passed through trying times in the early and mid-1890s. Even if some railroad consolidations had been undertaken in the mid-1890s, their number increased

sharply after the Trans-Missouri and joint Traffic decisions. This is evident in the data on mergers for twelve-month periods ending in June that are presented in Table 19. Mergers increased substantially in 1897, following Trans-Missouri, and declined while Joint Traffic wound its way to the Supreme Court. This case was decided in October of 1898, and mergers and consolidations increased for the period July 1898-1899. Over the next twelve months, ending June 1900, mergers increased to a new high.

The effect of these mergers is also reflected in the growth of class 1 railroads-those with 1,00 miles or more of track, also shown in Table 19. The number of class 1 railroads increased from forty-four to fifty-one (or 16 percent) between June 1899 and June 1902. In addition, the larger 23 percent increase in class 1 mileage suggests that a good deal of the overall growth came from existing class 1 roads. The percentage of railroad mileage under class 1 control increased from 57 percent in 1899 to 65 percent in 1902.

These developments are consistent with the view that the Supreme Court drove railroads to other forms of joint control, although not always merger. However, there seem to be two factors that offset the influence of the 1897 and 1898 decisions. The prohibition of pooling and the erosion of Interstate Commerce Commission powers in the early 1890s probably stimulated some consolidations among railroads even before these court decisions were made. Consistent with this, Table 19 shows that an annual average of about 2 percent of U.S. mileage was merged or consolidated over the years 1890-96. However, serious legislative efforts were made to permit pooling and to reform the regulation of railroads in other ways in the late 1890s and ensuing years. The overall effect of these two influences was probably to soften the impact of the two railroad cases.

Table 19. Railroad Mergers, Consolidations, Number, and Mileage of Class 1 Railroads, 1890-1907

Year	Merged		Consolidated		Number of Class 1 Railroads	Mileage of Class 1 Railroads	Percentage of Total Mileage
	Number	Miles	Number	Miles			
1890	13	599	50	6,196	40	77,873	47.5
1891	35	4,436	39	3,184	41	94,265	56.0
1892	19	1,143	16	323	43	99,232	57.9
1893	28	750	16	1,496	43	98,386	55.8
1894	15	1,735	14	1,590	44	100,547	56.3
1895	9	1,986	28	1,591	44	100,715	55.7
1896	22	1,505	18	718	44	103,346	56.9
1897	57	3,180	19	1,197	44	103,566	56.3
1898	22	1,234	14	1,310	44	105,372	56.6
1899	42	1,938	20	713	44	109,405	56.3
1900	89	4,490	36	5,762	49	117,880	59.2
1901	55	3,827	28	3,080	48	127,489	63.0
1902	62	2,228	46	2,628	51	134,090	64.7
1903	66	4,762	28	4,930	50	139,858	65.5
1904	47	3,046	32	1,913	48	143,952	65.4
1905	30	1,218	22	1,438	49	147,299	65.4
1906	28	1,274	24	2,157	50	150,927	65.4
1907	20	996	25	1,740	51	155,101	65.5

Source: Bittlingmayer, “Did Antitrust Policy Cause the Great Merger Movement?” *Journal of Law & Economics* 28 (1985), 101.

(2) Iron and Steel

Cartel agreements in iron and steel existed in pig iron, steel billets, steel rails, structural steel, steel plate, nails and wire, and numerous other products. U.S. Steel was formed in 1901 as a holding company organized under the laws of New Jersey. Its three major components were the three largest iron and steel producers in the United States. U.S. Steel also assumed control of a number of producers of finished goods that dominated their fields. It absorbed substantial transportation and mining facilities that had previously been independent firms.

In turn, two of the major steel companies that became part of U.S. Steel, Federal and National Steel, were themselves formed through mergers in 1898, as were many of the producers of finished products. For example, the American Steel and Wire Company was organized in April of 1898 out of fourteen mills, and the successor consolidation, with twenty-nine plants in 1900, owned nearly every wire, wire rod, and wire nail plant in the United States. The Wire Nail Association had cartelized this industry in the mid-1890s.

The connection between price fixing and merger in the steel industry probably be explored at greater length, but the major developments in this industry certainly make it reasonable to infer that merger performed some of the function of the abandoned cartels. The mergers also occurred at just the right time to raise the suspicion that they were a response to legal developments. In addition, iron and steel provides a classic industry

where production takes place under fixed costs and where transportation costs were probably high enough to create regional markets with small numbers of competitors.[71]

[71] George Bittlingmayer, "Decreasing Average Cost and Competition: A New Look at the Addyston Pipe Case," *Journal of Law & Economics* 51(1982), 70-2.

VI. Conclusion

According to my research on causality of the Great Merger Movement, retardation of industrial growth, development of railroad system, and growth of capital market are proved not directly to be related to the Great Merger Movement. Rather, the research based upon statistical data proves that judicial policy incurred the Great Merger Movement.

However, it is difficult to conclude that only judicial policy affected the Great Merger Movement. The influence of judicial policy, I believe, is relatively reasonable factor of some causes contended. In addition, I do not exclude other cause might exist.

Therefore, there are a few limitations of my study: First, I do not consider the "third" hidden causes. If the "third" cause may exist, it will be also difficult to determine what cause were the most influential. Second, the two industries, railroading, and iron and steel, presented as evidences are too small cases to prove the causality between judicial policy and the Great Merger Movement. However, according to Posner's study, there is a strong statistical relationship between them during the years 1904 to 1920 and more casual investigation suggests that the merger wave of the late 1920s may have been related to increased case filings and reestablishment of the per se rule.[72]

Through the Great Merger Movement, the Big Business influenced substantially American society.

First, firms set up innovation, mass production system, active investment, and efficient

[72] See Richard A. Posner, "A Statistical Study of Antitrust Enforcement," *Journal of Law & Economics* 13 (1970), 365-417.

organization during turn of nineteen century. Innovative firms or activity of entrepreneur was imitated by other firms or entrepreneur and then innovation of firms was generalized through imitation process. American enterprises developed sharply through economy of scales following the Great Merger Movement and at the same time, capitalism of the United States also developed dynamically.[73]

Each side-effect like distortion of market economy incurred during this development process was improved by fair enforcement of the Sherman Act and the Clayton Act. I believe that recent economic boom in the United States is based upon the stable foundations constructed from the Great Merger Movement. In fact, during economic construction from the Great Merger Movement, we cannot overestimate the effort and performance of the Supreme Court of the United States to create “new norm” through historic rulings.

Considering substantial increase of M&A in Korea and “Big Deal” issues, we, I believe, can get the lessons and implications from the Great Merger Movement.

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